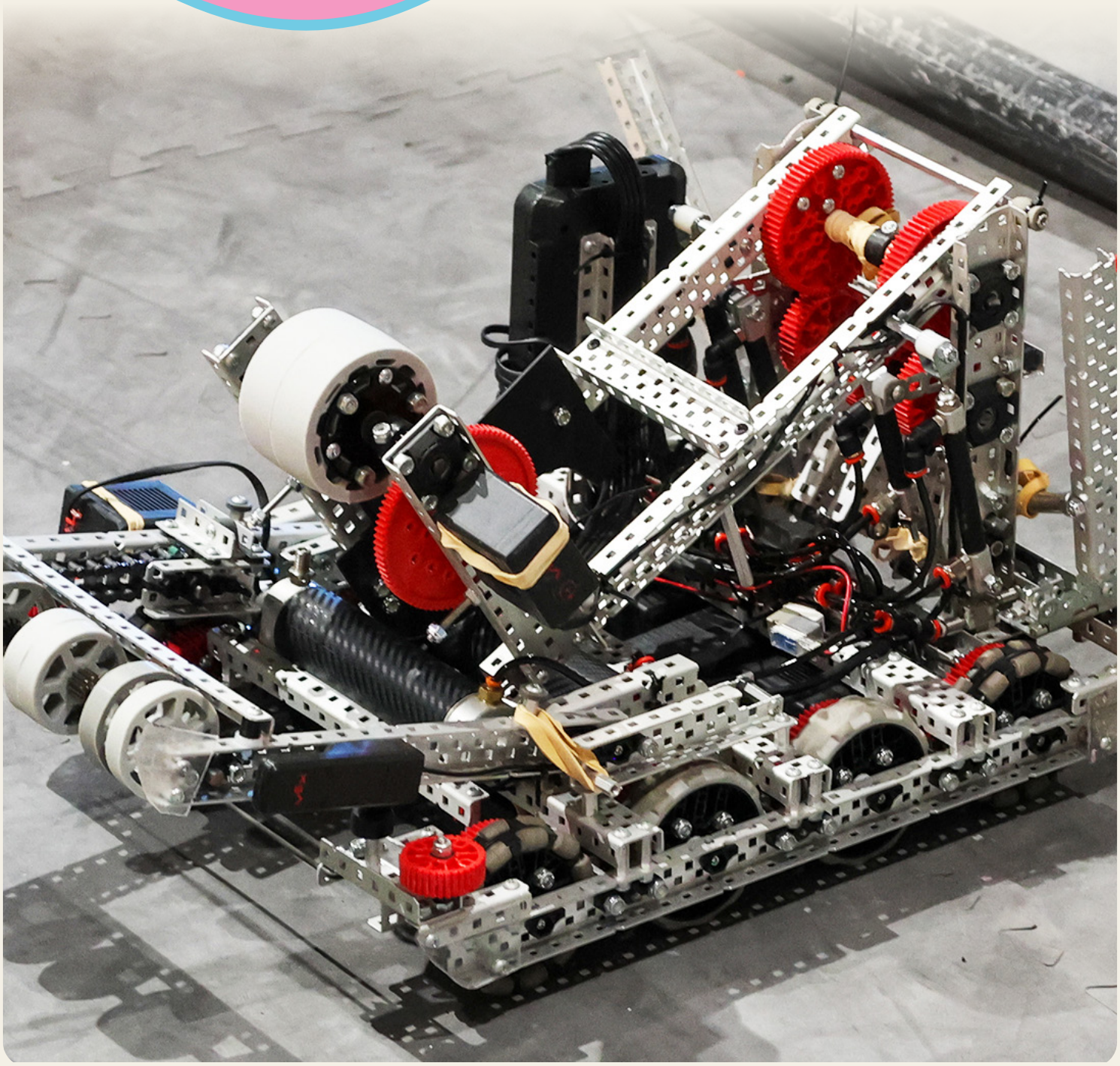
Technology



ROYAL ADELAIDE SHOW

Presented by Drakes.

2025 Competitions now open

theshow.com.au/competitions

CONTENTS

The Royal Agricultural and Horticultural Society makes every attempt to ensure that all information contained within this schedule is correct at the time of printing, however the RA&HS reserves the right to change such details as may be required.

HOW TO ENTER

ENTRY FEES (GST INCLUDED)

$5.15 per individual entry
$35.00 per team entry

ENTRIES

Complete the entry form available online at www.theshow.com.au
For any entry enquiries phone (08) 8210 5211 or email entries@adelaideshowground.com.au
Entries will be acknowledged via email.

CLOSING DATE OF ENTRIES

FRIDAY 18 JULY 2025 at 5.00 pm (CST)The following conditions will strictly apply:

The following conditions will apply to all entries:

- All entries must be received by the Society no later than 5.00 pm (CST) on Friday 18 July 2025.
- Entry forms by post, facsimile or email will not be accepted.
- No entries will be accepted after the above closing date
- Absolutely no exception to the above conditions will be made to any exhibitor under any circumstances.

PAYMENT OF FEES

When paying fees, exhibitors must ensure that enough funds are available at the time of entry. Failure to do so may result in non-acceptance of entries. Cash payments are not accepted.

REFUNDS

No refund of entry fees for all competitors will be made after the closing date of entries.

MEMBERSHIP

It is not a requirement of entry to the Technology & STEM Inspired Innovation Competition to be a member of the Royal Agricultural & Horticultural Society of SA Inc, however we do ask you to consider becoming a member of the Society, which will greatly assist us in continuing to grow, promote and support South Australia's vital Primary Industries. There are numerous other benefits to membership, including unlimited entry to The Royal Adelaide Show, access to Members Dining and Bar facilities and even discounts for Taste of the Best and The Adelaide Showground Caravan Park.

Further information can be found at https://www.rahs.com.au/membership

CONTACT US

Email	entries@adelaideshowground.com.au
Phone	(08) 8210 5211, 9.00 am - 5.00 pm Mon to Fri
Event Coordinator	Chelsea Wilkinson
Website	www.theshow.com.au
Post	RA&HS – Technology Section, PO Box 108, GOODWOOD, SA 5034

YOUR PRIVACY

By exhibiting at The Show you acknowledge that you have read and agree to the privacy policy of the RA&HS which can be viewed here.
In relation to your entry into a competition we may specifically use and/or disclose your personal information to:
Communicate competition information to you such as entry opening dates, delivery and collection details and entry ticket distribution.
Publish competition results both online and in printed results listings.
Publish competition entries in Competition Catalogues.
Advise sponsors of competition prize winners for distribution of prizes from both the RA&HS and sponsors.
By entering into a competition, you consent to your contact details being provided to the sponsors of that competition for the purpose of distributing your prize. You also consent to your name, suburb and postcode being listed in a competition catalogue and, if you are a prize winner your name in competition results.
If you do not wish for your name and address to be printed in a competition catalogue please ensure that you select the 'Keep Private' option in your online exhibitor profile.

DELIVERY OF EXHIBITS

All exhibits to be delivered to the Tech Centre – Basketball Stadium, Rose Terrace, Adelaide Showground.

Exhibits must be delivered between 8:30am and 12:30pm on Wednesday 20 August and accompanied by the Society computer printout of entry details.

Once exhibits have been received, the pavilion will be closed for judging.

Exhibits received after the set down time will not be judged or displayed.

COLLECTION

All Exhibits, Certificates and Ribbons are to be collected between 8.30 am and 11:30am on Tuesday 9 September unless administration has been notified before Monday 8 September via email to entries@adelaideshowground.com.au. All Exhibits, Certificates and Ribbons are to be collected on Tuesday 9 September will be kept until Friday 19 September after which time they will be forfeited by the winner and destroyed.

GENERAL REGULATIONS

Exhibitors are reminded that the Society's General Regulations apply to all sections of the Show. A copy of the General Regulations can be obtained from the Society's website at www.theshow.com.au.
Exhibitors should note that the General Regulations contain a number of provisions relevant to competitions and this Schedule including but not limited to, offences, penalties, prohibited drugs. As those conditions apply in addition to the regulations contained within this schedule, Exhibitors should familiarise themselves with the General Regulations.

SPECIAL REGULATIONS

Exhibitors are reminded that the Special Regulations contained within this Schedule are merely supplementary to and subject to the General Regulations. The members of the Society's Technology Committee shall have the authority to act on behalf of the Society to take any necessary action under these Special Regulations.

RESTRICTION OF ENTRIES

There is no restriction on the number of entries per exhibitor in each class. However, should the number of entries received exceed the number which can be accommodated, the Society reserves the right to reduce the number of entries in whatever manner it deems fit.

TRANSFERS

Please ensure exhibits are entered in the correct class at time of entry. No exhibit will be transferred to another class after the closing date of entries.

WITHDRAWALS

All withdrawals must be made in writing and can be sent via email to entries@adelaideshowground.com.au. Emailed withdrawals must include “Withdrawal” in the subject line and the section (eg Technology Section, exhibitor name, class number/s, exhibit number (if known) and exhibit name (if applicable). Withdrawals must be made at least 24 hours prior to judging.

ENTRY REQUIREMENTS

All exhibits must be current work from July 2024 to August 2025.
The support material accompanying each exhibit should be packaged in a suitable A3 or A4 folder, displaying exhibit and class number.

Design brief with projects entries require:

- A design brief stated clearly
- Independent planning and research evident
- Some innovation and originality
- Communication using graphics
- Good choice of materials and systems of manufacture
- Quality of project showing attention to detail/ performance and safe design
- Attention to safety in manufacture

Project Only Entries require

- Clear use of literacy standards in investigation planning and evaluation stages
- Project only exhibits require:
- Attention to detail
- Quality choice of materials and processes
- Attention to safety in manufacture
- Quality of project showing attention to detail/ performance

Team projects:

- Team projects may be submitted by 2 or more competitors for that entry.
- Prizes will be awarded to named individuals of the teams with prize cards if they are named at entry/ registration time.

Technology Restriction of entries:

- Exhibitors can enter more than one item for judging.
- Exhibitors may not enter one project across 2 classes or categories.
- If the number of exhibits exceeds the space available, the Society reserves the right to display prize winning exhibits only.

Use of Artificial Intelligence Code of Practice with any entries in Technology

Some entries may require the use of Artificial Intelligence (Ai) in Coding or programming for intuitive systems of control.

The Artificial Intelligence (Ai system of control) must -

- Generate net benefits for all users that are greater than the costs
- Cause no harm to civilian Ai Systems users by deception or be implemented with negative outcomes
- Comply to standards and regulations of use of Ai, in International, Australian, local, state and territory government obligations and laws
- Ensure that people’s private data is protected and kept confidential and that the result cannot cause reputational, psychological, financial, professional or other types of harm to people.
- Be fair to all people, non-discriminatory against individuals, groups or communities based on sex, religion, age, political views or race.
- Contain data that is free from bias/ skewing or characteristics which may cause algorithms to behave unfairly
- Be transparent and explained to people when an algorithm is being used for its impact and the ability of the interaction of the user AND the Ai system to make decisions

EXHIBIT CARDS

After entries have closed, exhibit cards will be EMAILED to exhibitors and must accompany each entry. These cards should be securely fastened to entries so that the card is clearly seen when the work is displayed.
Straight pins must not be used to attach exhibit cards. Every separate article of a set must bear the exhibit number and be attached to the set by mounting.
Exhibits must not have any identification markings or names, other than the exhibit cards supplied by the Society.

PRIZES & AWARDS

The following prizes will be awarded (unless otherwise specified)
First $15 and prize card
Second $5 and prize card
Third: prize Card

Prize Cards:
In addition to the prizes listed, prize cards may be awarded in accordance with the following .
10 to 15 exhibits – One Commended card,
16 to 20 exhibits – Two Commended cards,
Over 20 exhibits – Three Commended cards.
Prize cards not collected will not be forwarded by the Society.

Ribbons & Sashes:

Place Ribbons for Robotics, AORRC and CO2 Dragster Classes, and STEMSEL Invention, Innovation and Enterprise.
Champion Sashes for Best Exhibit 2025

The Best Overall Exhibit in Technology
The criteria for Best Design and Technology Exhibit in 2025, judges will be looking for;

- Uniqueness, sensitivity and innovation
- Independent learning and resourcefulness
- A high degree of finishing and skills exhibited in the age group
- Attention to safety in manufacturing and design
- A clever and marketable product / solution/ or idea.
- High quality of back up material if needed (judges' discretion)
- Eligible entries must receive a first prize, then a special prize for that section to be selected for the Best Design and Technology Exhibit Overall Winner.

PAYMENT OF PRIZE MONEY

All prize money won during the Royal Adelaide Show will be paid by Electronic Funds Transfer (EFT) only.

Prize money will be paid at the end of October.

Any trophy, prize or prize money not claimed by 30 November of the current year, shall be deemed forfeited by the exhibitor and the RA&HS shall no longer be liable to pay or provide the prize.

The Society makes every endeavour to ensure all prizes listed are accurate at the time of printing. Should a prize (cash, voucher, product, trophy) be withdrawn by a sponsor subsequent to printing, the Society will pay prize money as stated above. It is the responsibility of the prize winner to follow-up with the Society any sponsored prize (cash, voucher, product, trophy) they believe they are entitled to prior to 30 November in the year of the prize being awarded. The Society will not follow-up prize sponsors after this date or review any prizes that may have been incorrectly awarded.

PRIZE MONEY AND GST

Prize money as stated in the Prize Schedule does not include GST.

The prize money which we pay to successful exhibitors depends on information provided to us. If you confirm that you are GST registered and provide your Australian Business Number (ABN), we will pay the appropriate prize money plus 10% GST. We will provide you with a Recipient Created Tax Invoice which you will need to submit to the Australian Taxation Office.

If you confirm you are registered for GST, in entering the competition, you acknowledge your agreement to the following:

You will not issue a tax invoice to the RA&HS in respect to prize money received;

You will notify the RA&HS if you cease to be registered for GST.

If you provide your Australian Business Number but are not registered for GST, we will pay the prize money as detailed in the Prize Schedule without reference to the GST.

If you confirm you are entering as part of a private recreational pursuit or hobby, we will pay the prize money as detailed in the Prize Schedule without reference to GST.

IMPORTANT
It is important that you either:

Confirm you are entering as part of a private recreational pursuit or hobby, or
Confirm you are entering as a GST registered business and supply your ABN

Failure to do either of the above will cause the RA&HS to withhold a portion of your prize money in accordance with Australian tax legislation.
The RA&HS is not a tax consultant and therefore assumes no liability for actions taken as a result of these guidelines. In any instances where an entrant or sponsor is uncertain of the tax implications of their involvement, they should consult their own accountant or tax advisor.

The Society makes every endeavour to ensure all prizes listed are accurate at the time of printing. Should a prize (cash, voucher, product, trophy) be withdrawn by a sponsor subsequent to printing, the Society will pay prize money as stated above. It is the responsibility of the prize winner to follow-up with the Society any sponsored prize (cash, voucher, product, trophy) they believe they are entitled to prior to 11 December in the year of the prize being awarded. The Society will not follow-up prize sponsors after this date or review any prizes that may have been incorrectly awarded

JUNIOR and ADULT TECHNOLOGY SPECIAL CONDITIONS

Judges Discretion and Removal of Entries:
- Any exhibit may be removed from the display by the judges on behalf of the RA&HS if the exhibit contains:
- Weapons or weapons inferred, intentionally or otherwise.
- Images that are offensive in a sexual, racist or discriminatory manner, intentionally or otherwise.
- Information that is offensive, indiscrete, racist or defamatory, intentionally or otherwise.
- The exhibit may be returned to the owner at a later date, after the Show.

The following links are provided to give a starting point for interested exhibitors looking for further information. As these links are to third party sites the RA&HS do not specifically endorse the information but provide them as a point of reference that can be used in conjunction with other information sources to prepare an entry. Entrants are reminded to correctly reference all websites used in their inventions and innovations.

Alternative Energies
CO2 Dragsters Research Folio ME Program http://www.meprogram.com.au/wp-content/uploads/2012/08/CO2-Dragsters-Research-Folio.pdf

STEM Focus – Robotics, Programming
Non STEMSEL © Robotics/Control Technologies Platforms (including Artificial Intelligence)
LEGO - https://education.lego.com/en-au/curriculum
FIRST Robots - https://firstaustralia.org/programs/first-lego-league/
Arduino - https://core-electronics.com.au/brands/arduino-australia

STEMSEL FOCUS
Development classes STEMSEL Robotics/Control Technologies Platforms (including Artificial Intelligence), “Invention for Social Good”, STEMSEL Robotics/Control Technologies Platforms (including Artificial Intelligence). Professional classes

STEMSEL Foundation http://foundation.stemsel.com/
eLabtronics https://www.elabtronics.com/b

STEM Experimental Investigations Focus
Investigation on a theme in Physical sciences, Chemistry, Biology, Agriculture and Horticulture Applications, Material Applications

Design & Technology
Design and Technology Teachers Association of S.A.Inc. - https://datta.sa.edu.au/

SPECIAL AWARDS

THE DATTA PRIZE BEST EXHIBIT OVERALL IN DESIGN AND TECHNOLOGY
$50 sponsored by Design & Technology Teachers' Association of SA

MOST SUCCESSFUL SCHOOL IN TECHNOLOGY
Open to schools and colleges.
Points will be awarded on the following basis:
1st - 3 points
2nd - 2 points
3rd - 1 point

STEM RACING SHOW TIME TRIAL

$35.00 per team entry with one (1) car (up to 3 team members)
$5.00 per extra car per team entry

The Stem Racing Show Time Trial (SRSTT) competition is open to anyone under the age of 19. An Entrant may be one person, or a team of up to three people. Each Entrant will be required to produce one (1) Race Car and one (1) Poster corresponding to the Race Car. An Entrant may submit extra Race Cars for an additional entry fee per extra Race Car. Each extra Race must be accompanied by a corresponding. A Race Car submitted without a corresponding Poster will be excluded from running.

Each Race Car will race against the clock to set the quickest time over ten (10) runs on a 20m flat, straight racetrack. Each Poster will be displayed on a wall in the vicinity of the racetrack. The performance and appearance of the Race Car and the appearance and content of the Poster will be judged. Entrants are permitted to bring tools and equipment to service and modify their Race Car so as to improve the performance of their Race Car during the SRSTT competition.

The aim of the SRSTT competition is to provide a valuable experience and understanding of the design, building and performance of Stem Racing Australia race cars.

PLEASE NOTE: THE SRSTT COMPETITION IS NOT A STEM RACING AUSTRALIA STATE FINAL.

Stem racing Australia ten (10) competition criteria listed in the stem racing Australia competition regulations will not be contested in the SRSTT competition. Participation in the SRSTT competition in no way provides eligibility for entry into any subsequent stem racing Australia final. Results of the SRSTT competition will not be used in any subsequent stem racing Australia final. Race cars and posters entered in the SRSTT competition will not necessarily be eligible to compete in any subsequent stem racing Australia final.

RACE CAR SPECIFICATIONS

The “Race Car” is defined as the complete and fully assembled race car that has been submitted to the RAHS to compete in the SRSTT competition. SRSTT Race Cars must be designed, built and finished in compliance with the current Technical Regulations of Stem Racing Australia. Each Race Car may be scrutineered at any time prior to or during the competition to check for compliance to the Technical Regulations.

TECHNICAL REGULATIONS:

The current Stem Racing Australia Technical Regulations are entitled “2024 Technical Regulations”. There are three (3) different Technical Regulation booklets:

2024 Technical Regulations 3DP Class
2024 Technical Regulations Cadet Class
2024 Technical Regulations Development and Professional Classes

These regulations can be downloaded via the link below:

https://learning.rea.org.au/c/Regulations_Documents

CLASS OF RACE CAR:

There are four (4) classes of Stem Racing Australia race car:
3DP (3D Printed)
Cadet

Development
Professional

Each and every Race Car in the SRSTT competition must comply with Stem Racing Australia Technical Regulations. All Entrants regardless of age in the SRSTT competition are free to design and manufacture their SRSTT Race Car in compliance with anyone (1) of the four (4) Stem Racing Australia race car classes. As such, the Entrant must download and use the appropriate Technical Regulations for the class of Race Car chosen by the Entrant. The Poster corresponding to each Race Car must state the Stem Racing Australia race car class to which the corresponding Race Car was design and manufactured. All extra Race Cars submitted by an Entrant must comply with (1) of the four (4) Stem Racing Australia race car classes.

If Entrant enters extra Race Cars, then the design and Stem Racing Australia race car class does not have to be the same for all Race Cars entered by the Entrant. For example, an Entrant may enter a Cadet class Race Car and a Professional class Race Car.

NOTE: Stem Racing Australia rules regarding eligibility of car classes as printed in Stem Racing Australia Competition or Technical Regulations do not apply to the SRSTT competition. It is suggested that although SRSTT Entrants are free to choose whichever class of Race Car they want to build for the SRSTT competition, Entrants should be mindful of the Stem Racing Australia race car class eligibility when choosing their Race Car class if they intend to compete in any future Stem Racing Australia Final events.

BALSA BODY:

Cadet, Development and Professional Technical Regulations specify that the Race Car must be manufactured from a Balsa Block. These Balsa Blocks can be obtained from:

AUZAC
11 Emanuel Court,
Melrose Park,
South Australia, 5039
Phone: +61 8 8276 4122
Email (Wholesale): sales@auszac.com.au
Email (Retail); sales@balsacentral.com.au
Website link for ordering: https://education.balsacentral.com.au/collections/balsa-blocks

REA Standard Grommets, Wheels, Axles and Tether Guides:
CADET and Development Technical Regulations specify that the Race Car must use:
REA Standard Grommets
REA Standard Wheels
REA Tether Guides
3DP and Professional class Race Cars may also use these REA components.

These REA Standard components can be obtained from either:

Sam Nikolsky
Sam.Nikolsky@vu.edu.au
Wyndham Tech School
T: +61 (03) 9919 7604

Mr Rowan Cahill
Academic Staff Whitsunday Anglican School
2-16 Celeber Drive, Beaconsfield Qld 4740 • PO Box 3390, North Mackay Qld 4740
T: 07 4969 2000
E: rch@was.qld.edu.au

Cadet and Development Technical Regulations specify that the Race Car must use REA Standard Axles with the REA Wheels and Grommets. For the SRSTT competition a cylindrical rod of outside diameter 3.125 mm (1/8”) in any material may be used with the REA Wheels and Grommets. Typical materials for the axle rod include brass, steel, and carbon fibre.

LUBRICANTS:

Any lubricant used on the Race Car must not contact or contaminate the track. Use of oil is permitted but must be used sparingly so as not to drip onto the track. Use of graphite powder at any time during the SRSTT is prohibited. Silicon dry lube is recommended

MANDATORY STICKERS OR DECALS AND FINISH

Mandatory stickers or decals specified in the Stem Racing Australia Technical Regulations are not required for the SRSTT competition. Entrants are free to paint, decorate, and finish their Race Car however they so choose. Bold, metallic, vibrant colours are encouraged. Stripes would be great. Flames would be utterly fantastic! Consistency of livery between Race Car and Poster will be assessed

POSTER SPECIFICATIONS

Each SRSTT competition Entrant is required to produce one (1) Poster corresponding to the Race Car. If the Entrant has entered more than one Race Car, then each Race Car will require its own corresponding Poster. This Poster will be displayed throughout the Royal Adelaide Show in the vicinity of the racetrack and be judged during the SRSTT competition

- Poster should ideally be printed on corflute or rigid card
- Poster must be laminated if poster is constructed by separate pieces of printed paper being glued to a backing sheet
- Posters will be judged on appearance, “wow” factor, content, layout, and quality of work.
- Consistency of livery between Race Car and Poster will be assessed

POSTER SIZE:

Class 1: A3 min, A2 max
Class 2: A2 min, A1 max
Class 3: A2 min, A0 max
Class 4: A1 min, A0 max

CONTENT: CLASS 1

- Name of Entrant (or each entrant if a team)
- RAHS exhibit number
- photograph of completed Race Car
- statement of Stem Racing Australia class of Race Car
- evidence in the form of screenshots of 3D CAD model of the race car assembly
- evidence in the form of photos of manufacturing process as evidence of computer-controlled manufacture

CONTENT: CLASS 2

- All contents listed in Class 1, plus
- Description of design influences and design process

CONTENT: CLASSES 3AND 4

- All contents listed in Class 2 plus
- Description and diagrams of any simulation and/or testing
- Explanation of the physics, science and engineering involved in the Race Car

RACE FORMAT

Race Cars will run on flat track of the Pitsco or Denford type as used by Stem Racing Australia. Race Cars will be triggered and timed by the Denford type Race Control System. Race Cars will be slowed and stopped by material such as cloth that does not damage the Race Cars. Race Cars will be timed over 20 m from a standing start to a precision of 0.001 second. The racetrack has two lanes, which shall be referred to in this section as Lane A and Lane B.

An “Official” is defined and a RAHS Councilors, Judge, Steward, Staff, or any other person so nominated by an RAHS Official.

Each Race Car will be scrutineered according to its respective Stem Racing Australia race car class Technical Regulations prior to commencement of running on the track. Only the Critical Regulations of the Technical Regulations will be assessed in scrutineering.

- Any time penalties specified in the Technical Regulations will be applied
- Entrants will be given an opportunity to modify their Race Cars to become compliant and thereby have the time penalty removed
- Should an Entrant be unable to successfully modify their Race Car to become compliant and have time penalties removed, then the time penalties will be applied to each timed run
- If a Race Car is below the minimum mass, then mass will be added to the Race Car by the Officials so that the mass of the Race Car exceeds the minimum mass. The mass added will be small screws.

Each Race Car will run 10 runs, with 5 runs on Lane A and 5 runs on Lane B. The time for each run will be recorded. The 10 runs do not need to occur consecutively.

The fastest and slowest of the 10 runs will be disregarded, so as to eliminate any outlier times. Only the remaining 8 recorded times will be assessed and count towards the Awards

The Race Car may be triggered automatically by the Officials, or manually by the Entrant at the discretion of the Officials

Race Cars of different Entrants can be run at the same time in the two lanes.

If Entrants choose to race each other during the 10 runs, then this may happen if time permits and at the discretion of the Officials. Only the elapsed time of each Race Car is recorded. There is no SRSTT award for race winners. Racing is simply a matter of fun for the Entrants

If a CO2 cartridge fires incorrectly through no fault of the Officials or Entrant resulting in an unusually slow run, then that run is to not count as one of the 10 runs and the run will be repeated.

Race Cars are allowed to be serviced and lubricated between runs only by the Entrant

The design of the Race Car is allowed to be modified by hand only by the Entrant between runs with the purpose of improving (decreasing) the run time. After any such modifications, the Race Car must remain legal with the relevant class of Technical Regulation for the Race Car. If modified, the Race Car must be submitted to the Officials prior to the next run to ensure that the Race Car remains compliant with the relevant Technical Regulations.

At the start of the competition and at all times during the competition after any repairs and modifications the Race Car must remain compliant with the relevant Technical Regulations for the Race Car to ensure a fair competition within each SRSTT class. Should a Race Car not comply with critical regulations stated in the Technical Regulations, then the appropriate time penalties will be applied to each run.

Entrants are permitted to rectify their Race Car to remove time penalties.

If a Race Car breaks apart during a run and crosses the finish line with components missing (eg. a wheel comes off during a run), then:

- the time for that run will be recorded as DNF, and
- that run will count as one of the 10 runs and not be re-run, and
- Race Car and separated components will be removed from the track, and
- Race Car must be presented to Officials by the Entrant prior to commencement of any repair by Entrant to confirm the nature of required repair, and
- Race Car must be ready to run again in a time negotiated with Officials, and
- Race Car may be repaired only by the Entrant with no outside assistance, and
- A repaired Race Car must be examined by the Officials prior to running again and be approved to run by the Officials, and
- Officials reserve the right to disqualify a Race Car from continuing to run if in the opinion of the Officials the repaired Race Car is not safe
- Entrant is allowed to complete the remainder of the 10 runs

If a Race Car breaks during a run but finishes in one piece, or if after completing a run a Race Car breaks while stopping, then:

- the time for that run will be recorded, and
- that run will count as one of the 10 runs and not be re-run, and
- Race Car will be removed from the track, and
- Race Car must be presented to Officials by the Entrant prior to commencement of any repair by Entrant to confirm the nature of required repair, and
- Officials reserve the right to disallow repair of the Race Car to proceed if in the opinion of the Officials the damage is trifling and constitutes improving or lubricating (refer Section 4.6)
- Race Car must be ready to run again in negotiation with Officials, and
- Race Car may be repaired only by the Entrant with no outside assistance, and
- A repaired Race Car must be examined by the Officials prior to running again and be approved to run by the Officials, and
- Officials reserve the right to disqualify a Race Car from continuing to run if in the opinion of the Officials the repaired Race Car is not safe
- Entrant is allowed to complete the remainder of the 10 runs

Should a Race Car be unable to complete 10 runs due to being damaged and withdrawn from running by either the Entrant or disqualified by the Officials or for some other reason, then the Race Car will not be eligible for the Best Car Award or Most Consistent Car Award

An Entrant or any person other than an Official is not permitted to:

- clean, alter or modify in any way the condition of the track surface or any part of the track or barriers or gates or the tether lines during the SRSTT competition
- alter the height and/or angle of the starter mechanism in relation to the track by adding material between the track surface and starter mechanism body
- add any device to the starter mechanism

The use of any device that is separate from the Race Car and that alters or hinders or in any way interferes with the exhaust of CO_2 gas from the CO_2 cartridge at any time prior to or during a run is strictly forbidden.

Entrants are not permitted to:

- provide and use their own CO_2 cartridge for a timed run
- handle or in any way add heat to the CO_2 cartridge used by the Officials prior to a timed run

AWARDS

RAHS Ribbons and Certificates will be awarded in each SRSTT class for the competition awards listed below:

BEST POSTER

This will be judged by the Officials

BEST CAR

To qualify for this award the Race Car must have successfully completed 10 runs, including any DNF runs, and
The fastest and slowest of the 10 runs will be disregarded, and the 8 remaining times will be assessed, and
Any and each DNF run in the 8 runs will be given an equivalent time equal to the slowest time of the 8 recorded runs, and
The total of the 8 times including any modified DNF times will be calculated, and
The BEST CAR Award will be awarded to the Race Car with the lowest total time.

FASTEST CAR

This shall be awarded for the fastest single run out of the 8 recorded runs of any Race Car

MOST CONSISTENT CAR

This shall be awarded for the lowest standard deviation of the 8 recorded runs of any Race Car

MOST IMPROVED CAR

This shall be awarded to the Race Car recorded the greatest improvement (decrease) in run time within the 8 recorded runs as a result of modifications to the design to the Race Car during the competition
This award will not be awarded if no Race Cars were modified and recorded improved times during the competition
Servicing, lubrication and repairs to damage will not be considered as modifications to the design.

CONCOURSE CAR

This shall be awarded to the best-looking car as judged by the Officials

Class 1 **INDIVIDUAL OR TEAM - up to the age of 11**
Oldest Team Member - up to the age of 11

Class 2 **INDIVIDUAL OR TEAM - ages 12 & 13**
Oldest Team Member - 13 years of age

Class 3 **INDIVIDUAL OR TEAM - ages 14 & 15**
Oldest Team Member - 15 years of age

Class 4 **INDIVIDUAL OR TEAM - ages 16 to18**
Oldest Team Member - 18 years of age

VEX ROBOTICS

The Design and Technology Teachers Association of South Australia are excited to bring the first ever VEX Robotics Tournament to the Royal Adelaide Show. This tournament will feature 16 High School teams in the V5 Division competing in the 2025-2026 Season game "Push Back". DATTA SA invites teams seeking to register to compete to visit our website: https://datta.sa.edu.au/vexatrahs/ which will contain full details and updates leading up to the tournament on the 5th September 2025. Additionally, across Saturday and Sunday following the tournament, DATTA SA will have VEX Robotics Demonstrations for age groups across ages 5 through to 99+!

ROBOTICS & CONTROL TECHNOLOGIES

Description and details are available through elabtronics website - http://www.runlinc.com
Judges will be looking for quality and originality with the:

- Design of circuit
- Design of the hardware
- Efficiency of control
- Manufacture of the “components of the circuit and finish of the product”
- Performance
- Sensitivity to STEMSEL and UNESCO priorities in the community

These entries show the STEMSEL Principles of Science, Technology, Engineering, Mathematics, Social Enterprise and Learning to give life to communities. The aim of this competition in its many forms is to work to UNESCO priorities to improve the quality of life and human condition.

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

All exhibits will be displayed and secured in the **Tech Centre, Basketball Stadium** before Show week.

Special Conditions

- All competitions and judging for this category are performed pre-Show and during Show Week. Competitors will be notified of times and dates. Failure to attend at the notified time may eliminate your entry from being judged or displayed.
- Final projects will be displayed at the end of the competition days in cabinets with prize certificates in the **Tech Centre, Basketball Stadium,** located on the western side of the Showground.
- Some exhibitors may need to compete as a team, if otherwise stated.
- Students will be required to go to the Advanced Technology Pavilion at the allocated times to complete and display their work.

STEMSEL Microcontrollers and Robotics

Competition days and dates for 2025 Competitors will be advised of any changes to times.

Pre-Show Competition dates for 2025:
Science Alive week competitions

- Incubator, Soccer, Line Following and UAV Quadcopter Competitions)
- City and Farms

Finalists will be chosen and nominated by the judges to appear in “Science Alive Week” and then a chosen percentage would be invited by the judges to display and compete during Show week as finalists.
The invited teams to display and compete in Show week are comprised of 4 to 6 team members who can individually respond to questions from the judges around the design cycle in the ACARA Digital and Design and Technology.

5 Representatives of a team will be required to show their work to judges in Science alive then at the Royal Adelaide Show using these titles as roles – (The Design Cycle Approach in Digital and Design and Technology)

- The Design Brief and Investigation Stage.
- The Devising/ Generating Stage.
- The Implementing/ Production Stage.
- The Evaluation Stages.

The exhibitors will be required to demonstrate their programming skills to the judges and public to obtain their ranking of prizes.

Finalists days for individuals and groups in Show week
Monday 4 September
Tuesday 5 September
Wednesday 6 September
Thursday 7 September
Friday 8 September
Prize award ceremony - Friday 8 September

STEMSEL Inventors Competition and Exhibits
Assembly of the finalists for team and individual exhibits will occur on Thursday 5 August for

- Group Competitions Innovation Invention and Enterprise
- Innovation Invention and Enterprise
- and exhibitors

Demonstrations and interactive exhibits including Innovation Invention and Enterprise exhibits will occur throughout the Show week.

Materials, programs hardware and software
You will need to provide your project with software packages from eLabtronics, ADELAIDE.
You will need to bring a laptop computer (240V, AC Supplied) a program prepared and the performing, working model.
Description and details will be supplied through – STEMSEL runlinc web site http://www.runlinc.com

GAMING & CODING

This section is devoted to the people who invent games and software to tell a story or produce a game for others to learn about information. The information may be of use, as entertainment and education, to others, for learning such as -

- Historical.
- Geographical.
- Agricultural.
- Science and Mathematics.
- General knowledge and language applications.

The judges will be looking for some reasons for your clever invention of the game and the use of software applications. Some applications could be web based such as “Scratch”. This exhibit may be done and shown with a computer on the day of judging, with some background information in a folio to the judges. Information to include in your folio includes:

- A design brief or reasons why this was done.
- Investigation of the gaming systems used.
- A Graphical outline of the package with screen shots describing the data used.
- The production of the game as the key feature of the entry.
- An evaluation of the Gaming package and what could be improved.

The entry must deliver an easy package for the judges to see on screen, the use of the software and the entertainment value with clear graphics.

Class 5 Up to and including 18 Years of Age

THE ELABTRONICS PRIZE BEST EXHIBIT IN GAMING & ENTERTAINMENT
Product ($450) sponsored by eLabtronics

CONTROL TECHNOLOGIES & PROGRAMMING

This section may use Control technologies other than STEMSEL such as Arduino, LEGO Mindstorms and others.

The STEM Robotics/Control Technologies Platforms (including Artificial Intelligence) may be

- Individual Entries
- Team Entries

Judges will be looking for quality and originality with the:

- Design of circuit.

- Design of the hardware.
- Efficiency of control.
- Manufacture of the “components of the circuit and finish of the product”.
- Performance.
- Sensitivity to the wellbeing of the community.

With judging consideration given to:

- Design efficiency of chassis and programming efficiency of the system.
- Circuit design and construction and manufacture of the structure supporting the control centre.
- Neatness and finish of the product.
- Weight (lightness) if required and stability of structure that is performing the task.
- Efficiency of control system when tested and under a load.
  NB - A small item may need to be provided to show the Control Technology or Robot working under load conditions

The Folio of Work must incorporate:

- Details on the design process with design brief, investigation planning and evaluation.
- Back up work with calculations and specific principles used.
- Sustainability of control system or production system.
- Chassis and circuit designs.
- Method of manufacture with pictures of stages

Class 6 Up to and including 18 Years of Age

BEST EXHIBIT IN CONTROL TECHNOLOGIES & PROGRAMMING

UAV (UNMANNED, AERIAL VEHICLE)

Using Control circuits and Programming

Special Conditions
This competition will be held during show week.

For information for further specifications and judging requirements email Miro miro@elabtronics.com or the website www.runlinc.com

Class 7 Up to and including 18 Years of Age

THE ELABTRONICS PRIZE BEST EXHIBIT IN CONTROL TECHNOLOGIES (UNMANNED AERIAL VEHICLE)
Product ($450) sponsored by eLabtronics

ROBOTICS - Line Following

Robots designed with software and hardware from eLabtronics, are to compete with each other to follow a line on a field. The racetrack is a black paper sheet mat with a white line twisting and turning from start to finish. The track has simple and more complex turns. The robots should sense the line and the program be adjusted by the competitor in the Show week. Times are taken for efficiency of the program.

Judges will be looking for originality of design of hardware and efficiency of system of control.

Class 8 Up to and including 18 Years of Age

THE ELABTRONICS PRIZE BEST EXHIBIT IN CONTROL TECHNOLOGIES (ROBOTICS FOCUS LINE FOLLOWING)
Product ($450) sponsored by eLabtronics

ROBOTIC DRONES - Obstacle Course

Robotic drones designed with software and hardware to complete an obstacle course in as short a time as possible and to place an object in a target area, using a remote control wifi controller device such as a tablet or laptop.

The robots may sense the obstacles, sense the position in the field and be able to be controlled and programmed with a runlinc WiFi program.

Class 9 Up to and Including 15 years of age

Class 10 16 to 18 years of age

THE DYLAN SNELL PRIZE and THE ELABTRONICS PRIZE BEST EXHIBIT IN CONTROL TECHNOLOGIES
Product ($450) sponsored by eLabtronics, $50 sponsored by Dylan Snell

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STEMSEL TEAM & INDIVIDUAL INVENTORS COMPETITION

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

All exhibits will be displayed and secured in the **Technology Pavilion** before Show week.

Australian Entries (Local and Interstate Entries) and Guest overseas Entries
Both competitions require design brief and problem based learning (PBL) that shows back up work and the competitor attending or communicating through SKYPE on the competition day(s).

There are 2 competitions within this category:

- Individual prize winner – a choice of 4 topics
- Group or team prize winner – a choice of 2 topics

The Design Brief Requirements for the 2 STEMSEL Competitions

- Competitors are required to use control circuits and programming for an invention displaying innovation.
- Competitors are required to be creative in this section to demonstrate an idea or model that is marketable as a commercially viable and sensitive product to STEMSEL and UNESCO/ Dr Yunus Vision of 3 zeros (Zero net carbon, zero poverty and zero unemployment).

Performance of Exhibits
The invention and innovation uses the programming of microcontrollers to perform tasks with ezSystem programs.
The invention must have a strong ethics component to improve the human condition or quality of life, with a theme that may be applicable in the local, state or global context.
The competitor(s) must demonstrate and present an exhibit that includes a:

- Enterprise and a marketing strategy
- A folio in the investigation, planning and evaluation stages of the invention
- A working invention with a verbal discussion.

Judging requirements for both individual and team competitions:

- Competitors will be invited by the Royal Show to attend on judging days to demonstrate and discuss with the judges, their innovative control system.
- The individual or a small group (about 5 people representing a team) will be invited by the Royal Show to display the work, during Show week.
- The invention must be working and have a good standard of display and finish to the public.
- The programs need to be in a PC windows format, readable and based on ezSystem from eLabtronics, Adelaide.
- Both types of competitors must display the invention with a folio as a marketing tool of back up work that shows;
    - title page with the exhibit number, class number and title of the invention
    - design brief
    - description of the technology systems used
    - investigation and analysis of materials (traditional and advanced)
    - investigation and analysis of systems used to manufacture and control the invention
    - showing ideas and final stages of concepts realisation of the innovation
    - print of the control program with some photos of construction and final working stages.
    - evaluation describing a vision statement and marketing strategy for your invention and sensitivity to STEMSEL and UNESCO priorities and Dr Yunus Vision of 3 Zeros, with accounting/ enterprise and innovation strategies.

NB - The folio needs to be up to 15 A4 pages long and be presented on the day with the invention.

INDIVIDUAL PRIZE CATEGORIES
The themes for an individual prize (applicable in the local, state, interstate or global/ overseas context are)

- Entertainment and Recreation
- Environment and Energy Applications
- Agriculture and Horticulture Issues
- Industry and Transport Applications

Some topics could include –animatronics, systems reducing CO_2 emissions, waste disposal, water, soil and air conservation, improving productivity from the land, improve quality and quantity control of manufacturing processes, an alarm system, a smart street light, a white goods control system, a model of low energy housing construction, heating, cooling, lighting and water saving system, a light house, a seed sower, etc

FURTHER INFORMATION
Additional information regarding specifications and judging requirements please email Miro - miro@elabtronics.com. or visit the eLabtronics website www.elabtronics.com

ENTERTAINMENT & RECREATION

Class 11 Entertainment and Recreation - 11 to 18 Years of age.

BEST EXHIBIT IN SCHOOLS STEMSEL - ENTERTAINMENT & RECREATION

ENVIRONMENTAL & ENERGY ISSUES

Class 12 Environment and Energy Issues - 11 to 18 Years of age

THE CITY OF UNLEY PRIZE BEST EXHIBIT IN SCHOOLS STEMSEL - INNOVATION, INVENTION & ENTERPRISE - ENVIRONMENTAL AND ENERGY ISSUES
$150 sponsored by City of Unley, Trophy ($100) sponsored by City of Unley

AGRICULTURAL AND HORTICULTURAL APPLICATIONS

Class 13 Agricultural and Horticultural Applications - 11 to 18 Years of age

THE SHOW SOCIETY FOUNDATION PRIZE BEST EXHIBIT IN SCHOOLS STEMSEL - INNOVATION,INVENTION & ENTERPRISE - AGRICULTURAL AND HORTICULTURAL APPLICATIONS
The individual winner will receive 2 return economy tickets for the winner and an adult to travel to an overseas destination to compete in a STEM Competition.
Voucher ($3,000) sponsored by Show Society Foundation

INDUSTRY & TRANSPORT APPLICATIONS

Class 14 Industry and Transport Applications - 11 to 18 Years of age

BEST EXHIBIT IN THE INDIVIDUAL INNOVATION, INVENTION AND ENTERPRISE AWARD IN ROBOTICS COMPETITION - INDUSTRY AND TRANSPORT FOCUS

ADULT GENIUS - INVENTION, INNOVATION & ENTERPRISE

This section is for competitors over the age of 18 years.

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times. This competition is design brief and problem based learning (PBL) requiring back up work and the competitor attending the competition day/s.
All exhibits will be displayed and secure before Show week.

Competition days and dates for 2025
Finalists days:
Wednesday 3 September - Friday 5 September
Prize award ceremony - Friday 5 September

There is one competition to select an overall individual prize winner from a choice of 4 topics

- Entertainment and Recreation
- Agricultural and Horticultural Applications

- Industrial and Transport Applications
- Environment and Energy

The Design Brief and Folio requirements

- use control circuits and programming for an invention displaying innovation.
- be creative in this section to demonstrate an idea or model that is marketable as a commercially viable product.
- The invention and innovation uses the programming of microcontrollers to perform tasks with ezSystem programs.
- The invention must have a strong ethics component to improve the human condition or quality of life.
- The themes may be applicable in the local, state or global context.
- The competitor(s) must demonstrate and present an exhibit that-
    - demonstrates enterprise and a marketing strategy with a social and ethical emphasis
    - contains a folio in the investigation, planning and evaluation stages of the invention
    - can demonstrate the working invention to judges with a verbal discussion.

Judging requirements for individual adult competitions:

- Competitors will be invited by the Royal Show to attend on judging days to demonstrate and discuss with the judges, their innovative control system.
- The individual or a small group (about 6 people representing a team) will be invited by the Royal Show to display the work.
- The invention must be working and have a good standard of display and finish to the public.
- The programs need to be in a PC windows format, readable and based on ezSystems from eLabtronics, Adelaide.
- Both types of competitors must display the invention with a folio as a marketing tool of back up work that shows –
    - A title page with the exhibit number, class number and title of the invention
    - The design brief
    - A description of the technology systems used
    - The investigation and analysis of materials (traditional and advanced)
    - The investigation and analysis of systems used to manufacture and control the invention
    - Graphics showing ideas and final stages of concepts realisation of the innovation
    - A Print of the control program with some photos of construction and final working stages.
    - An evaluation describing a vision statement and marketing strategy for your invention, with a social and ethical emphasis.

NB - The folio needs to about 15 A4 pages long and be presented on the day with the invention.

INDIVIDUAL PRIZE CATEGORIES
The themes for an individual prize (applicable in the local, state or global context are):

- Entertainment and Recreation
- Agricultural and Horticultural Applications
- Industrial and Transport Applications
- Environment Issues and Energy

Some topics could include –animatronics, systems reducing CO_2 emissions, waste disposal, water, soil and air conservation, improving productivity from the land, improve quality and quantity control of manufacturing processes, an alarm system, a smart street light, a white goods control system, a model of low energy housing construction, heating, cooling, lighting and water saving system, a light house, a seed sower, etc.

Class 15 Entertainment and Recreation

Class 16 Agricultural and Horticultural Applications

Class 17 Industrial and Transport Applications

Class 18 Environment Issues and Energy

BEST EXHIBIT IN INNOVATION, INVENTION AND ENTERPRISE ROBOTICS COMPETITION MADE BY AN ADULT

JUNIOR WIZARD - INNOVATION, INVENTION & ENTERPRISE

These entries show the STEMSEL Principles of Science, Technology, Engineering, Mathematics, Social Enterprise and Learning to give life to communities. The aim of this competition in its many forms is to work to UNESCO priorities to improve the quality of life and human condition. It also encourages the “Invention for Social good” to use the Professor Yunus 3 Zeros policy to create No Unemployment, No Poverty and No nett carbon (Pollution)

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

All exhibits will be displayed and secured in the **Basketball Stadium** before Show week.

Special Conditions

- All competitions and judging in this category are performed pre-Show and during Show Week. Competitors will be notified of times and dates. Failure to do so may eliminate your entry from being judged or displayed.
- Students will be required to go to the **Basketball Stadium** at the allocated times to complete and display their work.
- Final projects will be displayed at the end of the competition days in cabinets with prize certificates in the **Basketball Stadium**.
- Some exhibitors may need to compete as a team, if otherwise stated.
- All exhibits will be displayed and secure before Show week.
- This competition is design brief and problem-based learning (PBL) requiring back up work and the competitor attending the competition day/s.

Competition days and dates:
Finalists days:
Thursday 4 September and Friday 5 September
Prize Award Ceremony - Friday 5 September

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

This competition is design brief and problem based learning (PBL) requiring back up work and the competitor attending the competition day(s).

There is one competition to select an overall individual prize winner from a choice of 5 topics.

- **ENTERTAINMENT AND RECREATION**
- **ENVIRONMENT ISSUES**
- **AGRICULTURAL APPLICATIONS**
- **MANUFACTURING AND INDUSTRIAL APPLICATIONS**
- **ENERGY AND TRANSPORT**

The Design Brief and Folio requirements

- Use control circuits and programming for an invention displaying innovation.
- Be creative in this section to demonstrate an idea or model that is marketable as a commercially viable product.
- The invention and innovation uses the programming of microcontrollers to perform tasks with ezSystem programs.
- The invention must have a strong ethics component to improve the human condition or quality of life.
- The themes may be applicable in the local, state or global context.
- The competitor(s) must demonstrate and present an exhibit that:
    - demonstrates enterprise and a marketing strategy with a social and ethical emphasis
    - contains a folio in the investigation, planning and evaluation stages of the invention
    - can demonstrate the working invention to judges with a verbal discussion.

Some topics could include –animatronics, systems reducing CO2 emissions, waste disposal, water, soil and air conservation, improving productivity from the land, improve quality and quantity control of manufacturing processes, an alarm system, a smart street light, a white goods control system, a model of low energy housing construction, heating, cooling, lighting and water saving system, a light house, a seed sower, etc.

Class 19 Entertainment and Recreation - Ages 11 to 18 Years.

Class 20 Environmental Issues and Agricultural Applications - Ages 11 to 18 Years.

Class 21 Manufacturing and Industrial Applications - Ages 11 to 18 Years.

Class 22 Energy and Transport - Ages 11 to 18 Years.

BEST EXHIBIT IN INNOVATION, INVENTION AND ENTERPRISE ROBOTICS COMPETITION MADE BY either A STEMSEL Junior Wizard or Non STEMSEL Robotics Entry, Solving Humanitarian needs and providing well-being to other

STEMSEL TEAM COMPETITION

The Design Brief for Australian and Overseas Competition teams
Competitors are required to use control circuits and programming for an invention displaying innovation with an idea or model of a sustainable system for either a:

- Smart City or
- Smart Farm

The innovation, invention and enterprise competition models use the programming of microcontrollers to perform tasks with ezSystem programs.

The invention must be active and can be used by the public as an interactive, eye catching display. The team will be required at times to discuss their invention with the public and may be observed by the judges.

The display can be no larger than 1800mm x 1200mm. The Team Competition entries may be selected and displayed at the Royal Show at different times due to limited space. Teams will be advised by The Royal Show and eLabtronics, Adelaide.

The invention may have a solution to some of these problems: traffic control, waste disposal and sanitation, improving productivity, transport and energy, lighting, cooling and heating, power generation, communication systems, fresh water and storage, soil erosion.

Judges will be looking for:
An innovative approach with strong ethics and "green approach" to the problem to be solved.

AUSTRALIAN TEAMS: SMART FARM

Class 23 12 to 15 years of age

Class 24 16 to 18 years of age

AUSTRALIAN TEAMS: SMART CITY

Class 25 12 to 15 years of age

Class 26 16 to 18 years of age

OVERSEAS TEAMS: SMART FARM

Class 27 12 to 15 years of age

Class 28 16 to 18 years of age

OVERSEAS TEAMS: SMART CITY

Class 29 12 to 15 years of age

Class 30 16 to 18 years of age

THE ELABTRONICS PRIZE BEST EXHIBIT IN INNOVATION, INVENTION AND ENTERPRISE ROBOTICS COMPETITION MADE BY A SCHOOL GROUP
Product ($450) sponsored by eLabtronics

CO2 DRAGSTERS

Please refer to the inside front cover for closing date of entries, staging, judging and collection times.
All exhibits will be displayed and secured before Show week.

This competition will comprise of handmade CO_2 Dragsters Competition (Racing Car and novelty themes)

Special Note
The novelty section themes for the handmade CO2 Dragsters may be Warner Bros. or comic strip themes such as the Road runner and Coyote, Tweetie and Sylvester etc.

Public and Racing and demonstrations

ALL Show week

These competitions are for students who are going to exhibit at the Show, during Show week. Racing and demonstrations will take place in the Tech Centre (Basketball Stadium) with students allocated specific times to compete and display their work.

Safety requirements and exhibition
All entries in the CO_2 Dragster competition will be scrutineered for safety before racing.

Description and details will be supplied for all competitions in this section
Design specifications for hand-made Dragsters Teachers in schools

CO_2 CARTRIDGES WILL BE SUPPLIED AND SPONSORED BY DATTA OF S.A FOR DEMONSTRATION EVENTS AND CO2 DRAGSTER COMPETITIONS.

CO2 DRAGSTERS CLASSES

Class 31 12 to 15 years of age

Class 32 16 to 18 years of age

BEST PRESENTED & DECORATED HANDMADE CO2 DRAGSTERS

FASTEST TIMED HANDMADE CO2 DRAGSTER

HANDMADE CO2 DRAGSTERS - NOVELTY SECTION - VEHICLE/S ONLY

eg Warner Bros theme

Class 33 Any age from 8 to 18 years of age

BEST PRESENTED & DECORATED HANDMADE CO2 DRAGSTERS (NOVELTY SECTION)

FASTEST TIMED HANDMADE C02 DRAGSTERS (NOVELTY SECTION)

ALTERNATIVE ENERGY SOURCES

Competitors are to produce an energy source or model of an energy source that is environmentally friendly and a clever solution to energy production. The applications may be domestic or agricultural
Examples include:

- Windmill
- Agricultural and Horticultural Applications
- Solar Heating
- A Water Saving Project etc
- Photovoltaics
- Bio Chemical cells
- Thermal energy sources
- Wind energy sources

Any entry must be incorporated with a folio (the design process with design brief, investigation planning and evaluation)

- Any calculations and specific principles used.
- How energy is produced and sustained
- Designs/ drawings/ pictures of chassis or structure
- Basic circuit designs required
- Method of manufacture with some pictures
- The Alternative energy model on show and works in front of the judges

Other considerations will be

- Neatness and finish of the product
- Efficiency of power source when tested and under a load.

NB - A small item may need to be provided to show the power source working under load conditions

Class 34 Up to and including 15 years of Age.

BEST PRESENTED ALTERNATIVE ENERGY SUPPLY SYSTEM

MOST EFFICIENT (under load) ALTERNATIVE ENERGY SUPPLY SYSTEM

SYSTEMS AND ENERGY TECHNOLOGY

Competitiors are to produce a machine or model of a machine that can be powered by a clever means.

Examples include:

- Rubber Band
- A Falling Weight
- Electrical Supply (Battery or Solar Power)
- Spring (Mouse Trap or Similar)
- Agricultural and Horticultural Applications

Class 35 Up to and including 12 years of Age

THE DATTA PRIZE BEST EXHIBIT IN SYSTEMS AND ENERGY TECHNOLOGY
$50 sponsored by Design & Technology Teachers' Association of SA

TRADITIONAL MATERIALS, COMMERCIAL MODELING & LEGO SYSTEMS

TRADITIONAL MATERIALS

Competitors are to produce a structure that can withstand a force or load, from wood, metal, straws, pop sticks, cardboard etc.

Here are some examples -

- Bridge
- Crane
- A Tall Building
- A House, general building structures, etc.
- Agricultural and Horticultural Applications

Class 36 Up to and including 12 years of Age

COMMERCIAL MODELING & LEGO SYSTEMS

Competitiors are to explore the use of technology through the ages. Models could be using commercial kits such as LEGO, Knex, Meccano, Fischer Technic etc.

The item(s) on display for this competition must fit into an imaginary box of **maximum sizes 400 mm x 300 mm x 300 mm.** (Otherwise these exhibits may not be displayed.)

Topic ideas include:

- House or Building
- Transport models
- Games, Entertainment
- Animals
- Agricultural and Horticultural Applications

Class 37 Up to and including 12 years of Age

Class 38 13 - 15 years of Age

THE DATTA PRIZE BEST EXHIBIT IN TRADITIONAL MATERIALS, COMMERCIAL MODELING & LEGO SYSTEMS
$50 sponsored by Design & Technology Teachers' Association of SA

MATERIALS and CONSTRUCTION TECHNOLOGY

For ages 13 to 18 years of age

Please refer to the inside front cover for Closing Date of Entries, Staging, Judging and Collection times.

All exhibits will be judged, displayed and secured before Show week.

This area encourages competitors to use in the manufacturing process, a variety of materials in a safe manner to increase comfort, lifestyle and needs in life.
Topics could include;

- Furniture
- Toys
- Containers
- Clamping Devices
- Aesthetic Pieces of Work
- Models for Transport
- Tool Marking and Jigs
- Machines or Parts Thereof
- Boxes CD Racks
- Creative Wood and Metal Turning
- Balancing Toys
- Candle Holders
- Kitchen Utensils
- Photo Holders, Etc

Materials to be used could include;

- Wood
- Metal
- Plastics and Other Materials
- Combination of 2 or more Materials
- Commercial Modelling and LEGO Systems

WOOD CONSTRUCTION
(Design process or project only)

Class 39 13 to 14 years of age

Class 40 15 to 16 years of age.

Class 41 17 to 18 years of age

BEST EXHIBIT IN WOOD MATERIALS TECHNOLOGY

METAL CONSTRUCTION
(Design process or project only)

Class 42 13 to 14 years of age

Class 43 15 to 16 years of age

Class 44 17 to 18 years of age.

THE MCKECHNIE PRIZE BEST EXHIBIT IN METALS MATERIALS TECHNOLOGY
$100 sponsored by McKechnie Iron Foundry Pty Ltd

COMBINATION OF MATERIALS CONSTRUCTION
Design process or project only

Class 45 13 to 14 years of age

Class 46 15 to 16 years of age

Class 47 17 to 18 years of age

THE DATTA PRIZE BEST EXHIBIT IN COMBINATION OF MATERIALS TECHNOLOGY
$50 sponsored by Design & Technology Teachers' Association of SA

COMBINATION OF MATERIALS TECHNOLOGIES AND USING DIGITAL TECHNOLOGIES

Design process or project only

Students are to produce a model or project using technologies such as CAD/CAM,

Eg Laser Cutting, 3D Printing, Plasma Cutting, CNC Machining WITH any choice of materials.

This category asks competitors to use their imagination to design and make an original, creative

a. model or object such as a sculpture, figurine eg chess pieces, toy, ornament, or jewellery.
b. functional object such as a tool, gadget or utensil.
c. object that has at least two moving parts that transfers motion. For example, windmill, gears etc.

Your entry will be judged on:

- Originality
- Degree of innovation 'complexity of the moving parts and how the moving parts interact to transfer motion'
- Quality of Manufacture with 3D printability, laser cutting, Plasma Cutting
- Aesthetic quality
- Quality and clarity of presentation materials
- Complexity of the moving parts and how the moving parts interact to transfer motion

Special Conditions –

Competitors will provide about 4 pages for judges to align the final Digital Technology Article to their 4 page A4 folio of work with -

- A cover sheet with your name or exhibit number and an image of your final article.
- Up to six screen grabs of the CAD Design process with some detailed notes.
- Final rendered image prior to 3D printing.

Class 48 13 to 14 years of age.

Class 49 15 to 16 years of age.

Class 50 17 to 18 years of age.

BEST EXHIBIT IN CONSTRUCTION TECHNOLOGY. COMBINATIONS OF MATERIALS TECHNOLOGIES AND USING DIGITAL TECHNOLOGIES

COMMERCIAL MODELLING and LEGO SYSTEMS

Class 51 13 to 15 years of age.

Class 52 16 to 18 years of age.

BEST EXHIBIT IN COMMERCIAL MODELLING SYSTEMS TECHNOLOGY

INFORMATION TECHNOLOGY - GRAPHICS AND CAD

Communication technologies are an important part of initiating other technologies. Competitors are to produce an A3 Size print of their CAD work. Projects could include parts of a machine, a tool, a project of wood, metal or plastic, a house, a caravan, a watering system etc

Class 53 Up to and including 12 years of age.

Class 54 13 to 15 years of age.

Class 55 16 to 18 years of age.

THE DATTA PRIZE BEST EXHIBIT IN TECHNICAL GRAPHICS AND CAD
$50 sponsored by Design & Technology Teachers' Association of SA

STEM EXPERIMENTAL INVESTIGATIONS

Competitors (an individual or a team up to 3) are to produce up to 3/ A3 Size project posters to exhibit an investigation of STEM (Integration of Science, Technology, Engineering and Maths) related concepts. These focussed concepts must be interesting, enlightened and stimulating to the public and judges to view.

Format of Displays – For all ages up to 18 years of age

- A set of **up to** 3 posters A3 Size required portrait style
- All posters are to be laminated
- Velcro hook tabs in each of the corners to affix poster(s) to the carpet style walling
- Graphics, spreadsheets etc and written work is done with Microsoft Office platform
- Photoshop and various CAD packages encouraged

Models could be included in the display, space permitting.

The focus is the “solution or outcome to the experiment” to be found using-

- Appropriate use of STEM concepts and skills
- Interaction and use of Technology (Information Technology and Communication) to display results
- Basic Engineering/ equipment skills
- Use of Mathematics to prove, interpret and display data and results

Posters should include -

- Digital or hand collaged images such as photos or diagrams of the scientific process
- A simple procedure (flow chart of ideas)
- Graphical data representing the results
- Digital Images of results of the investigation.

Judges will be looking for evidence in an innovative manner of a purposeful “STEM process of enquiry” with a highly visual presentation of –

- The aim (Design Brief) – originality of aim and design brief
- The hypothesis - mature and insightful
- A method of investigation and experimentation – logical and perceptive
- Data of the results (graphs) - neat and well presented with labels
- Discussion of results and conclusion - mature and responding to aims and hypothesis
- Competitor’s evaluation of the Process/ success of the Investigation

Judges’ Comment – To complete the task, competitors are encouraged to write a short evaluation on their poster of the inspiration about the journey of the investigation. Was it the science, technology, engineering or maths or another means to inspire this study?

- The use of Artificial Intelligence (Ai) at the appropriate level of study must conform to the “Ethics of the use of Ai” in the Conditions of entry in the Technology /STEM Inspired Innovation Schedule.
- References to the topic s should be briefly stated

Topics could include – (and there are many)

- Cells
- Chemistry
- Heat, Sound or Light
- Motion
- Genetics
- Animals and insects (Land or Water based creatures)

- Agricultural and Horticultural Applications
- Space Food (short or long mission travel)
- Nutrition for humans or animals
- Wine production
- Recycling and waste management
- Aerodynamics
- Pneumatics
- Textiles and clothing
- Alternative energies and generation eg Solar, wind,
- Material Studies (characteristics and properties of metals, timber, plastics etc)
- Electronic components of their characteristics

Class 56 Up to and including 12 years of age.

Class 57 13 to 15 years of age.

Class 58 16 to 18 years of age.

BEST EXHIBIT IN SCIENCE EXPERIMENTAL INVESTIGATIONS

YOUNG PEOPLE WITH ADDITIONAL NEEDS

Any combination of materials may be used in a safe manner.

A STRUCTURE

Competitors may produce an item of construction technology that is a model of a structure eg a bridge, a house, a scarecrow etc.

Class 59 All ages up to 18 years.

FURNITURE AND TOOLS

Competitors may produce an item of construction technology, that is a timber or metal item. This needs to be a useful article.

It may be used to store articles, or an item of furniture.

Class 60 All ages up to 18 years.

A METHOD OF TRANSPORT

Competitors may produce an item of construction technology that is a model or a method of transport technology to be used as a toy.

Class 61 All ages up to 18 years.

BEST EXHIBIT STUDENTS WITH ADDITIONAL NEEDS

3D PRINTING COMPETITION

RESTRICTION ON ENTRIES

- This competition is restricted to students in Years 3 -12
- Entry is $5.15 per entry.
- Exhibitors may not submit more than one entry per category.

DISPLAY of PROJECTS
Projects will be displayed during the Show. Where space is limited only prize winning projects may be displayed.

REGULATIONS

- Use a 3D printer and relevant computer aided design program and any suitable 3D printing material.
- All entries must be original student designs. Adult assistance with the 3D printing of designs is permitted.
- Provide in hard copy a cover sheet with your name, year level, the school you attend and an image of your submission.
- Include a 50-100 word description of your design for junor classes.
- Applicants may submit only one enter per category.
- Object such as guns or slingshots will not be accepted.

GUIDELINES

- Participation is open to all primary and secondary school students from all sectors (Department for Education, independent and Catholic Schools).
- A panel of independent judges from Education, tertiary and industry willbe the final judge.
- The competition is an individual competition - group entries will not be accepted.
- Participants need to supply a 3D Model.
- Entries will be judged based on the 3D model and accompanying descriptions.

PUBLICITY
By entering this competition, entrants agree to the use of winner's name, photographs, and opinions regarding the competition and any other relevant information for purpose of media promotion of the compeittion.

CREATIVE PROJECT

This category asks students to use their imagination to design and 3D print an original creative model or object such as a sculpture, figurine, toy, ornament or jewellery.

Entries in this category need to include a written description of 50-100 words.

Class 62 Up to and including 12 years of age.

SCULPTURE

Design a three-dimensional object that is free standing and no larger than a 200 mm cube. For example, chess piece, figurines etc.

Entries will be judged on:

- Originality
- Degree of Innovation
- 3D printability
- Aesthetic quality
- Quality and clarity of presentation materials

Each participant will supply a ***portfolio of work*** (in hard copy, not USB) as per the guidelines below to support the design process of their final 3D sculpture.

- Provide a cover sheet with your name, school you attend and an image of your entry.
- Research detailing ideas, sketches and images of at least three possible solutions with notation.
- Final sketched solution with notation
- At least six screen grabs of the CAD Design process with detailed notes.
- Final rendered image prior to 3D printing.
- Evaluation and reflection of the final 3D project.
- 3D printed object.

Class 63 13 to 15 years of age.

Class 64 16 to 18 years of age.

FUNCTIONAL OBJECT

Design a functional object that has at least two parts and is no larger than a 200 mm cube. For example, box with lid, hinge, jigsaw, compass etc

Your entry will be judged on:

- Originality: degree of innovation, complexity of the assembled product (if applicable) and how the components/sub-parts connect and/or interact
- 3D printability
- Aesthetic quality
- Quality and clarity of presentation materials

Each participant to supply a ***portfolio of work*** (in hard copy, not USB) as per the guidelines below to support the design process of their final 3D object.

- Provide a cover sheet with your name, school you attend and an image of your entry.
- Research detailing ideas, sketches and images of at least three possible solutions with notation
- Final sketched solution with notation
- At least six screen grabs of the CAD Design process with detailed notes.
- Final rendered image prior to 3D printing.
- Evaluation and reflection of the final 3D project.
- 3D printed object.

Class 65 13 to 15 years of age.

Class 66 16 to 18 years of age.

OBJECT WITH MOVING PARTS

Design an object that has at least two moving parts that transfers motion. For example, windmill, gears etc.

Your entry will be judged on:

- Originality
- Degree of innovation 'complexity of the moving parts and how the moving parts interact to transfer motion'
- 3D printability
- Aesthetic quality
- Quality and clarity of presentation materials

Object: Each participant to supply a ***portfolio of work*** (in hard copy, not USB) as per the guidelines below to support the design process of their final 3D object.

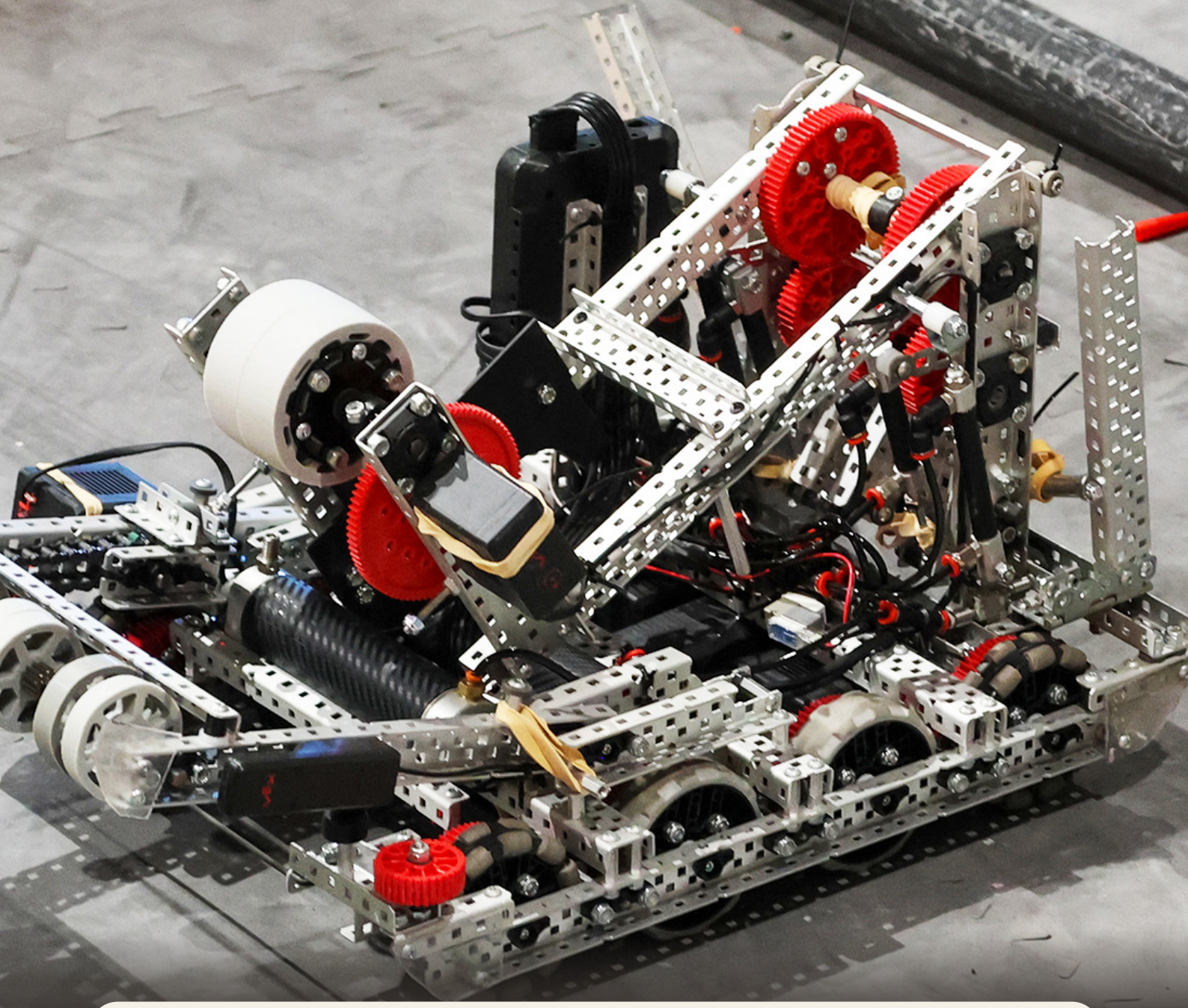
- Provide a cover sheet with your name, school you attend and an image of your entry
- Research detailing ideas, sketches and images of at least three possible solutions with notation.
- Final sketched solution with notation.
- At least six screen grabs of the CAD design process with detailed notes.
- Final rendered image prior to 3D printing.
- Evaluation and reflection of the final 3D object.
- 3D printed object.

Class 67 13 to 15 years of age.

Class 68 16 to 18 years of age.

SPECIAL AWARD

BEST OVERALL EXHIBIT IN 3D PRINTING
Chosen from the first placed entries in classes 62 - 68



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ROYAL ADELAIDE SHOW Presented by Drakes.

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- City of Unley
- Design & Technology Teachers' Association of SA
- eLabtronics
- Inspiring South Australia
- McKechnie Iron Foundry Pty Ltd
- The Show Society Foundation

ROYAL ADELAIDE SHOW - EXHIBITORS CONDITIONS OF ENTRY

HAZARD REPORTING

Exhibitors must notify the Area/Pavilion Supervisor or the Venue Control Centre immediately of any hazards detected. Hazards are any situation which has the potential to cause:

1. Injury, illness or death to people or animals either immediately or in the future
2. Damage or destruction to property

INCIDENT REPORTING

Exhibitors must notify the Area/Pavilion Supervisor or the Venue Management Office immediately an incident occurs which has resulted in:

1. The injury, illness or death of any person or animal
2. The damage, destruction or loss of property
3. A near miss incident that could have resulted in the consequences listed in 1 and 2

WASTE DISPOSAL

All waste including liquids must be disposed of responsibly and placed in the appropriate bin or receptacle. Storm drains must not be used for the disposal of any waste.

HAZARD MINIMISATION

All areas must be kept in a clean and tidy order with clearly defined and available access and exit routes at all times. Build-up of combustible waste must be avoided.

Care must be taken to minimise trip hazards and obstacles that people may walk into.

HAZARDOUS MATERIALS

The RA&HS are to be advised of all hazardous materials that are brought onto the Showground. Appropriate warning signs and Safety Data Sheets (SDS) will need to be provided before allowing these materials on site. SDS are to be available onsite and provided immediately upon request by an RA&HS Representative.

MEDIA COMMENTS

Any public comment on emergencies, incidents or other venue matters should only come from the RA&HS. The key media spokesperson for the RA&HS is the Marketing Manager.

DUTY OF CARE

It is important to ensure your own safety and that of all other site personnel, visitors and general public at the Adelaide Showground.

All exhibitors have a "Duty of Care" to avoid exposing themselves or other people to situations which could lead to injury. This "Duty of Care" extends to the prevention of damage to property.

LIABILITY AND INDEMNITY

1. Release

Entry to and remaining on the Showground is entirely at the risk of the Exhibitor and to the maximum extent permitted by law, the Exhibitor releases the Society (which term includes in this clause the Society's officers, employees, members and agents), from all claims and demands of every kind resulting from any accident, damage or injury occurring at the Showground, and without limitation, the Exhibitor acknowledges:

a) the Society has no responsibility or liability for any loss, damage or injury to or caused by any Exhibit;

b) the Society has no responsibility or liability for any loss, damage or injury to or caused by any Exhibitor, his or her family, invitees and Agents;

c) the Society has no responsibility or liability for any loss, damage or injury to a Motor Vehicle or any of its contents whilst it is located on the Showground; and

d) without limiting Regulations 1 (a), 1 (b) and (c) above, the Society has no responsibility or liability for any loss, damage or injury resulting from the sale, treatment, failure to treat, destruction, disposal or other dealing with any Exhibit, or for loss, damage or injury to any personal belongings, equipment or property brought onto the Showground.

2. Indemnity

To the maximum extent permitted by law, the Exhibitor must indemnify and keep indemnified the Society and its officers, employees, members and agents from and against all actions, claims, demands, losses, damages, costs, expenses and liabilities including without limitation, consequential loss and loss of profits for which the Society is or may be or become liable in respect of or arising from:

a) loss, damage or injury to any person in connection with the Exhibit or the relevant Event;

b) without limiting Regulation 2(a), loss, damage or injury to any other Exhibit or Exhibitor, his or her family, invitees, Agents, or to the property of the Society, or its members, or to the general public, caused or contributed to or by any act or omission of an Exhibit of the Exhibitor or by the Exhibitor, his or her family, invitees or Agents; and

c) without limiting Regulation 2(a), loss, damage or injury to the Exhibit, or the Exhibitor, his or her family, invitees, or Agents caused or contributed by an act or omission of an Exhibit of the Exhibitor or by the transportation, feeding or housing of an Exhibit of the Exhibitor.

3. Removal from Showground

Without prejudice to any other provision in these Regulations, where the Society, its officers, employees, members or agents removes an Exhibit, or causes an Exhibit to be removed from the Showground, the Exhibit is removed or caused to be removed entirely at the risk of the Exhibitor. The person or persons removing the Exhibit will be deemed to be the agent of the Exhibitor, and his or her acts and omissions will be deemed to be the acts and omissions of the Exhibitor.

4. Insurance

The Society will arrange Animal Exhibitors Public Liability insurance cover for all Exhibitors of Exhibits being animals. The Exhibitor is bound by the terms and conditions of this insurance and by Statutory Duties as defined under the Insurance Contracts Act (1984). Details of the Animal Exhibitors Public Liability insurance are set out in the Relevant Schedule. The Society does not insure first party loss, damage or injury to Exhibits, and Exhibitors should consider purchasing insurance if required.

5. Personal effects

The Society has no responsibility or liability for any loss or damage caused to personal belongings, equipment or property which is brought onto the Showground by an Exhibitor, his or her family, invitees or Agents.

EMERGENCY INFORMATION

Emergency information and Emergency Assembly Points for the various animal pavilions and stables will be included with Exhibitor List of Entries and Notice to Exhibitor notifications. Competitors should be familiar with these plans.

FIRST AID

During the Royal Adelaide Show, St John provides First Aid Services but it is suggested that competitors have a basic First Aid kit for minor medical requirements.

St John is not in attendance after public hours.

For emergency contact details, check Notice Boards for onsite assistance or dial 000 for a medical emergency.

RA&HS EMERGENCY FACILITIES

Firefighting and other emergency equipment must not be removed or used for any other purpose. Missing or unserviceable equipment should be reported to the Venue Control Centre immediately.

SMOKING

Smoking is only permitted in designated locations. The Royal Adelaide Show is a smoke free event.

TRAFFIC CONTROL

The RA&HS Traffic Control Policy imposes speed restrictions within the Showground. For the duration of the Royal Adelaide Show the speed limit is 10 kph on the grounds and 8 kph inside buildings.

The use of vehicles inside the Showground is closely managed during the Royal Adelaide Show. Conditions of entry will be provided with the issue of Vehicle Entry Permits.

Royal Adelaide Show

Presented by Drakes

2025 Competitions

theshow.com.au