



TECHNOLOGY, SUBS in SCHOOLS CHALLENGE, PICSE & 3D PRINTING

Prize Schedule | Competition Information

4 - 13 September 2015 | theshow.com.au



PRESENTING PARTNER



How the locals like it

IMPORTANT INFORMATION

Including:

- Schools Technology (Primary and Secondary Years)
- Schools Advanced Technology STEMSEL Robotics
- Adult Advanced Technology STEMSEL Genius
- Schools Photography and Multimedia
- PICSE
- 3D Printing

DELIVERY, COLLECTION & JUDGING TIMETABLE

| Section | Category | Delivery | Location | Judging | Collection Date & Location |
|--|---|---|------------------------------|---|---|
| Primary Years Design & Technology (Years R – 7) | Construction & Materials Technology Information Technology Systems & Energy Technology Photography | Wednesday 26 August 9.00 am to 3.00 pm | Goyder Pavilion | Photography Thursday 27 August Construction Friday 28 August | Tuesday 15 September 9.00 am – 12.00 noon <i>Goyder Pavilion</i> |
| Special Needs Students in Technology (Years R to 12) | Construction & Materials Technology | Wednesday 26 August 9.00 am – 3.00 pm | Goyder Pavilion | Friday 28 August | Tuesday 15 September 9.00 am – 12.00 noon <i>Goyder Pavilion</i> |
| Secondary Years Design & Technology (Years 8 to 12/13 and VET) | Construction & Materials Technology Information Technology Combination of Materials and Technologies (CAD/CAM) | Wednesday 26 August 9.00 am – 3.00 pm | Goyder Pavilion | Friday 28 August | Tuesday 15 September 9.00 am – 12.00 noon <i>Goyder Pavilion</i> |
| Primary & Secondary Years Advanced and Digital Technologies (Years R to 12/13 and VET) | Performing Show Week Exhibits STEMSEL Schools & Adult Genius Competitions Robotics Invention, Innovation & Enterprise | Wednesday 26 August 9.00 am – 3.00 pm | Advanced Technology Centre | Throughout Show. Time to be advised | Monday 15 September 9.00 am – 12.00 noon <i>Advanced Technology Pavilion</i> |
| Primary & Secondary Years Digital Technologies (Years R to 12/13 and VET) | F1 in Schools, set up booths, track and timing and CO2 Dragsters | Friday 28 August 9.00 am – 3.00 pm | Advanced Technology Pavilion | Monday 7 & Tuesday 8 September | Monday 14 and Tuesday 15 September 9.00 am – 12.00 noon <i>Advanced Technology Pavilion</i> |
| Primary & Secondary Years Digital Technologies (Years R to 12/13 and VET) | Future Submarine Technology Challenge | Wednesday 26 August | Advanced Technology Pavilion | Wednesday 9 September | Monday 14 and Tuesday 15 September 9.00 am – 12.00 noon <i>Advanced Technology Pavilion</i> |
| Primary & Secondary Years Design & Technology (Years R to 12/13 and VET) | 3D Printing | Wednesday 26 August | Goyder Pavilion | Friday 28 August | Tuesday 15 September 9.00 am to 12.00 noon <i>Advanced Technology Pavilion</i> |
| Primary & Secondary Years Design & Technology (Years R to 12/13 and VET) | Photography Multimedia | Wednesday 26 August 9.00 am – 3.00 pm | Goyder Pavilion | Thursday 27 August | Monday 14 September 9.00 am – 12.00 noon <i>Goyder Pavilion</i> |
| Tertiary & Open Adults | STEMSEL Genius | Wednesday 26 August 9.00 am – 3.00 pm | Advanced Technology Pavilion | Wednesday 9 & Thursday 10 September | Monday 14 September 9.00 am – 12.00 noon <i>Goyder Pavilion</i> |
| PICSE | REFER TO PICSE SECTION | | | | |

The Advanced Technology Pavilion is located at the Western end of the Showground and the Goyder Pavilion is on Goodwood Road.

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.

TECHNOLOGY, SUBS IN SCHOOLS CHALLENGE, PICSE & 3D PRINTING

CLOSING DATE OF ENTRIES TECHNOLOGY (SCHOOLS AND ADULT)

– FRIDAY, 3 JULY 2015 at 5.00 pm CST

**SUBS IN SCHOOLS, PICSE and 3D PRINTING – FRIDAY, 24 JULY
2015 at 5.00 pm CST**

CLOSING DATE OF ENTRIES

The following conditions will strictly apply:

- All entries, whether posted, lodged in person or completed online (if applicable) must be in the Society's possession at its Administration Office by **5.00 pm (CST) on Friday, 3 July 2015** for Technology and **Friday 24 July 2015** for Subs in Schools, PICSE and 3D Printing,
- When sending entry forms and fees by post, the onus is on the exhibitor to ensure adequate delivery time.
- Entry forms by facsimile or email will not be accepted.
- A late entry option is available under the following conditions:
 - Late entries may only be submitted online and will be accepted for 7 days after the official closing date (by 5.00 pm CST)
 - An additional fee equivalent to three times the standard entry fee is paid.

Absolutely no exception to the above conditions will be made to any exhibitor under any circumstance.

ONLINE ENTRIES

www.theshow.com.au

ACKNOWLEDGEMENT OF ENTRIES

Entries submitted online will be acknowledged via email.

For postal entries, if you require formal acknowledgement that your entry has been received please include a stamped, self-addressed envelope with your entry form.

ENTRY FEES (GST INCLUDED) FOR TECHNOLOGY, SUBS IN SCHOOLS & 3D PRINTING

Entry fees - \$4 per entry (online), \$5 per entry (paper)

3D Printing (online) \$4.00 per entry

Cheques should be made payable to RA&HS and posted with the completed entry form.

PAYMENT OF FEES

When paying fees by cheque or credit card, exhibitors must ensure that sufficient funds are available at the time of entry. Failure to do so may result in non-acceptance of entries.

REFUNDS

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

MEMBERSHIP

Exhibitors need not be members of the Royal Agricultural & Horticultural Society of SA Inc (hereafter referred to as RA&HS).

Membership fees: Adults \$152, Juniors \$52 (under 18).

CONTACT US

Post RA&HS - Technology, 3D Printing and PICSE Section

PO Box 40, GOODWOOD, SA 5034

Email entries@adelaideshowground.com.au

Phone (08) 8210 5211 Between 9.00 am - 5.00 pm Monday to Friday

Secretary Jo Geschmay

Website www.theshow.com.au

YOUR PRIVACY

If you do not want your details to be made available to other parties, please tick the box on the entry form supplied by the RA&HS. Your personal information will then only be used by the RA&HS to maintain contact with you and allow us to manage your entries. The RA&HS reserves the right to inform prize sponsors of the details of recipients to enable distribution of their voucher/product prizes.

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 or from the Society's Administration Office.

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 Art, Craft, Cookery & Technology Committee shall have the authority to act on behalf of the Society to take any necessary action under these Special Regulations.

SUBMISSION OF ENTRIES

All exhibits must be current work from July 2014 to August 2015.

The support material accompanying each exhibit should be packaged in a suitable A3 or A4 folder, displaying exhibit and class number.

SCHOOLS TECHNOLOGY

– A) DESIGN & TECHNOLOGY;

B) DIGITAL TECHNOLOGY

Students are encouraged to add a folio or design brief documentation with their project to assist the judging for major prizes. Some classes (e.g. Photography) do not require back up work, unless otherwise stated.

Design brief projects 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
- Attention to safety in manufacture
- 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
- A solution of worth

VET type projects require:

- A drawing with the item to show specifications and tolerances achieved.
- Highly appropriate choice of materials and processes/ systems
- Attention to safety in manufacture
- Attention to detail, performance and finish

Team projects

Team projects may be submitted in some Schools Technology categories ONLY and exhibitors appropriately named.

Prizes will be awarded to named individuals of the teams with prize cards if they are named at entry/ registration time.

Schools 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.

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.

EXHIBIT CARDS

After entries have closed; exhibit cards will be forwarded 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.

WITHDRAWALS

All withdrawals must be made in writing and can be sent via email to entries@adelaideshowground.com.au or faxed to (08) 8210 5222. Emailed withdrawals must include "Withdrawal" in the subject line and the section (eg Technology & PICSE 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.

PRIZES & AWARDS

For PICSE, 3D Printing Competition and Subs in Schools Prizes please refer to the relevant area of the Prize Schedule.

SCHOOLS TECHNOLOGY:

Prizes of First \$15, Second \$5 and Third \$3 will be awarded in the following sections (unless otherwise specified)

Prize Cards:

In addition to the prizes listed, cards may be awarded in accordance with the following table.

First, Second and Third – Cards,

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, F1 in Schools and CO2 Dragster Classes.

Champion Sashes for Best Exhibit 2015.

Sashes in 3D Printing, PICSE and Subs in Schools

The criteria for Best Design and Technology Exhibit in 2015, judges will be looking for

- Uniqueness, sensitivity and innovation
- Independent learning and resourcefulness
- A high degree of finish and skills exhibited in the age group
- Attention to safety in manufacture
- 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

It is the preference of the RA&HS that any prize money won during the Royal Adelaide Show is paid by Electronic Funds Transfer (EFT). The Exhibitor should provide the BSB, Account Number and Account Name on the space provided on the entry form. Amounts of \$15 or under will only be paid by this method. Exhibitors not requesting payment by EFT for amounts greater than \$15 will be paid by cheque.

PLEASE NOTE THAT CHEQUES WILL BE MADE OUT IN THE NAME OF THE EXHIBITOR. IF YOU DO NOT HAVE AN ACCOUNT IN THE NAME YOU HAVE ENTERED UNDER, YOU WILL NEED TO BE PAID VIA EFT.

PRIZE MONEY WILL BE PAID AT THE END OF OCTOBER.

To assist the Society, would you please ensure any cheques issued are deposited promptly into a bank account. Replacement prize cheques will be issued up to 18 December 2015, however a fee of \$10 may be charged. If the cheque to be replaced is not returned then an additional fee will be charged to cover the cost of cancellation. Any concerns regarding prize money must be raised with the Society by 18 December.

It is a term and condition of the payment of any prize by RA&HS that any cheque issued and provided in payment of a prize must be presented by the payee for payment within fifteen (15) months of the date upon which the cheque is issued otherwise the cheque shall become stale and of no value and the prize shall be deemed to have been forfeited by the payee and RA&HS shall no longer be liable to pay the prize. Any prize or prize money not claimed by 18 December 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.

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.

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 48.5% 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 Friday, 18 December 2015. The Society will not follow-up prize sponsors after this date or review any prizes that may have been incorrectly awarded.

PRIZE MONEY COLLECTION FOR TECHNOLOGY ONLY

Alternatively, prize money, up to \$50 cash in total, can be collected from the Administration Office on the dates below:

Show Time:

Friday 4 to Sunday 13 September – 2.00 pm to 4.00 pm daily

Post Show:

Tuesday 15 September 9.00 am to 5.00 pm.

Photo identification (e.g. driver's license) will be required when collecting prize money.

SCHOOLS 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:

1. Weapons or weapons inferred, intentionally or otherwise.
2. Images that are offensive in a sexual or discriminatory manner, intentionally or otherwise.
3. Information that is offensive, indiscrete or defamatory, intentionally or otherwise.

The exhibit may be returned to the owner at a later date.

CATEGORY 4 - PERFORMING ADVANCED TECHNOLOGY & ENTERPRISE STEMSEL EXHIBITS

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 **Technology Pavilion** before Show week.

Special Conditions

All competitions and judging in Category 4 are performed during 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.

Final projects will be displayed at the end of the competition days in cabinets with prize certificates in the **Advanced Technology Centre**. Some exhibitors may need to compete as a team, if otherwise stated.

STEMSEL MICROCONTROLLERS AND ROBOTICS

Competition days and dates for 2015. Competitors will be advised of any changes to times.

Pre Show Competition Dates for 2015:

Thursday 27 and Friday 28 August

(a) Egg Incubator, Soccer, Line Following and UAV Quadcopter Competitions

(b) Smart City and Farms

Finalists will be chosen and nominated by the judges to appear in Show week and are required to demonstrate their programming skills to the judges and public to obtain their ranking of prizes.

Finalists days for individuals and groups during the Show:

Monday 7 September

Tuesday 8 September

Wednesday 9 September

Thursday 10 September

Friday 11 September

Prize Award Ceremony - Friday 11 September

Schools Group Competitions Innovation and Enterprise: Thursday 27 August

Demonstrations and interactive exhibited including Innovation Invention and Enterprise exhibits will occur throughout 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 – web address for all 3 competitions in this section

<http://www.elabtronics.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

STEMSEL COMPETITION 1 - CONTROL CIRCUITS AND PROGRAMMING - THE EGG INCUBATOR

Participants are required to design and construct with eLabtronics, ezSystem kits and microcontrollers an egg incubator for use as an agricultural application. The incubators will be actively running through the show week and require testing of performance before the judging.

Class 602 - Up to and including Year 7

Class 603 - Year 8/9/10

Class 604 - Year 11/12/13/VET

THE ELABTRONICS PRIZE for

BEST EXHIBIT IN ADVANCED CONTROL TECHNOLOGIES (EGG INCUBATOR)

- Product (value \$450) sponsored by eLabtronics

STEMSEL COMPETITION 2 - UAV (UNMANNED, AERIAL VEHICLE)

Using control circuits and programming.

Aviation and avionics with assistance from the RAAF and STEMSEL circuitry.

Special Conditions

This competition will be held before Show week and those chosen to be of a suitable standard will perform their exhibits also during Show week. For information on further specifications and judging requirements email Miro miro@elabtronics.com or the website www.elabtronics.com

Class 605 - Up to and including Year 7

Class 606 - Year 8/9/10

Class 607 - Year 11/12/13/VET

THE ELABTRONICS PRIZE for

BEST EXHIBIT IN CONTROL TECHNOLOGIES (UNMANNED AERIAL VEHICLE)

- Product (value \$450) sponsored by eLabtronics

STEMSEL COMPETITION 3 - ROBOTICS (LINE FOLLOWING)

Judging requirements

Robots designed with software and hardware from eLabtronics, are to compete with each other to follow a line on a field. The race track 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 608 - Up to and including Year 4

Class 609 - Year 5/6/7

Class 610 - Year 8/9/10

Class 611 - Year 11/12/13/VET

THE ELABTRONICS PRIZE for

BEST EXHIBIT IN CONTROL TECHNOLOGIES (ROBOTICS FOCUS LINE FOLLOWING)

- Product (value \$450) sponsored by eLabtronics

STEMSEL COMPETITION 4 - ROBOTICS (SOCCER VIA REMOTE CONTROL)

Judging Requirements

Robots designed with software and hardware to compete with each other and to place a ball in a goal, using a remote control such as a Playstation 2 (PS2) controller device. Another competitor may be on the field (if time permits) to be a defender and the other an attacking robot. The robots may sense the other robot, sense the position in the field and be able to be controlled with a program, such as eLabtronics (ezSystem).

Class 612 - Up to and including Year 4

Class 613 - Year 5/6/7

Class 614 - Year 8/9/10

Class 615 - Year 11/12/13/VET

THE ELABTRONICS PRIZE for

BEST EXHIBIT IN ADVANCED CONTROL TECHNOLOGIES (ROBOTICS FOCUS SOCCER)

- Product (value \$450) sponsored by eLabtronics

SCHOOLS STEMSEL TECHNOLOGY - INNOVATION, INVENTION AND ENTERPRISE (PART 1)

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 **Advanced Technology Centre** 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).

There are 2 competitions:

1. The individual prize winner – a choice of 5 topics
2. The group or team prize winner – a choice of 2 topics

The Design Brief

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 priorities.

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 competitor(s) must demonstrate and present an exhibit that –

- (a) demonstrates enterprise and a marketing strategy
- (b) contains a folio in the investigation, planning and evaluation stages of the invention
- (c) can demonstrate the working invention to judges with a verbal discussion

The themes may be applicable in the local, state or global context.

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 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.

Both types of competitors must display the invention with a folio as a marketing tool of back up work that shows –

- (a) A title page with the exhibit number, class number and title of the invention
- (b) The design brief
- (c) A description of the technology systems used
- (d) The investigation and analysis of materials (traditional and advanced)
- (e) The investigation and analysis of systems used to manufacture and control the invention
- (f) Graphics showing ideas and final stages of concepts realisation of the innovation
- (g) A Print of the control program with some photos of construction and final working stages.
- (h) An evaluation describing a vision statement and marketing strategy for your invention and sensitivity to STEMSEL and UNESCO priorities, 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.

The programs need to be in a PC windows format, readable and based on ezSystems from eLabtronics, Adelaide.

INDIVIDUAL PRIZE CATEGORIES

The themes for an individual prize (applicable in the local, state or global context are) -

Entertainment and Recreation

Environmental Issues & Agricultural Applications

Manufacturing and Industrial Applications

Energy and Transport Applications

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.

SCHOOLS STEMSEL - INNOVATION, INVENTION & ENTERPRISE: ENTERTAINMENT & RECREATION

Class 616 - Up to and including Year 8

Class 617 - Year 9/10

Class 618 - Year 11/12/13

SCHOOLS STEMSEL - INNOVATION, INVENTION & ENTERPRISE: ENVIRONMENT ISSUES & AGRICULTURAL APPLICATIONS

Class 619 - Up to and including Year 8

Class 620 - Year 9/10

Class 621 - Year 11/12/13

THE FARM BARN PRIZE for

BEST EXHIBIT IN SCHOOLS STEMSEL - INNOVATION, INVENTION & ENTERPRISE: ENVIRONMENT ISSUES & AGRICULTURAL APPLICATIONS

- Prize is a multi-visit 12 month family pass for the **Farm Barn at Hahndorf**

SCHOOLS STEMSEL - INNOVATION, INVENTION & ENTERPRISE: MANUFACTURING & INDUSTRIAL APPLICATIONS

Class 622 - Up to and including Year 8

Class 623 - Year 9/10

Class 624 - Year 11/12/13

SCHOOLS STEMSEL - INNOVATION, INVENTION & ENTERPRISE: ENERGY & TRANSPORT

Class 625 - Year 8/9/10

Class 626 - Year 11/12/13

BEST EXHIBIT IN INNOVATION, INVENTION AND ENTERPRISE AWARD IN ROBOTICS COMPETITION IN 2015

The individual winner will receive 2 return economy tickets for the winner and an adult to travel to an overseas destination (TBA) to compete in a STEM Competition.

STEMSEL TEAM COMPETITION

The Design Brief

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 -

1. Smart City or a
2. 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 display. The invention/ display must be eye catching. The team will be required at times to discuss their invention with the public and observed by the judges.

The display can be no larger than 1800mm x 1200mm.

The invention may have a solution to some of these problems. Examples could include 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 etc

Judges' Special Comment

The judges will be looking for an innovative approach with strong ethics and "green approach" to the problem to be solved.

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.

STEMSEL TEAM COMPETITION: SMART FARM

Class 627 - Up to and including Year 8/9/10

Class 628 - Year 11/12/13

STEMSEL TEAM COMPETITION: SMART CITY

Class 629 - Up to and including Year 8/9/10

Class 630 - Year 11/12/13

THE ELABTRONICS PRIZE

for

**BEST EXHIBIT IN INNOVATION, INVENTION
AND ENTERPRISE ROBOTICS COMPETITION
MADE BY A SCHOOL GROUP**

- Product (value \$3,000) sponsored by eLabtronics

CATEGORY 5 - ROBOTICS INNOVATION, INVENTION & ENTERPRISE ADULT COMPETITION

Delivery of Exhibits: Wednesday 26 August 2015
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 for 2015:

Finalists days:

Wednesday 9 September

Thursday 10 September

Prize Award Ceremony - Friday 11 September

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 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**
- **ENVIRONMENTAL ISSUES**
- **AGRICULTURAL APPLICATIONS**
- **MANUFACTURING AND INDUSTRIAL APPLICATIONS**
- **ENERGY AND TRANSPORT**

The Design Brief and Folio required

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 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 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.

The themes may be applicable in the local, state or global context.

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.

Both types of competitors must display the invention with a folio as a marketing tool of back up work that shows –

- (a) A title page with the exhibit number, class number and title of the invention
- (b) The design brief
- (c) A description of the technology systems used
- (d) The investigation and analysis of materials (traditional and advanced)
- (e) The investigation and analysis of systems used to manufacture and control the invention
- (f) Graphics showing ideas and final stages of concepts realisation of the innovation
- (g) A Print of the control program with some photos of construction and final working stages.
- (h) An evaluation describing a vision statement and marketing strategy for your invention, with a social and ethical emphasis.

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

The programs need to be in a PC windows format, readable and based on ezSystems from eLabtronics, Adelaide.

INDIVIDUAL PRIZE CATEGORIES

The themes for an individual prize (applicable in the local, state or global context are) -

Entertainment and Recreation

Environmental Issues

Agricultural Applications

Manufacturing and Industrial Applications

Energy and Transport Applications

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.

BEST EXHIBIT IN INNOVATION, INVENTION AND ENTERPRISE AWARD IN ROBOTICS

The individual winner will receive the costs of 2 return economy airfares only (competitor and adult) to an overseas destination to a maximum value of \$3,000 to participate in a Robofest Competition. Sponsored by the Royal Agricultural & Horticultural Education Foundation of SA.

ADULT DIGITAL TECHNOLOGIES

Class 631 - Entertainment and Recreation

Class 632 - Environment Issues and Agricultural Applications

Class 633 - Manufacturing and Industrial Applications

Class 634 - Energy and Transport

THE ELABTRONICS PRIZE for

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

- Product (value \$450) sponsored by eLabtronics

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COMPETITIVE EXHIBITOR – ROYAL ADELAIDE SHOW

Conditions of Entry

HAZARD REPORTING

Competitors must notify the Area/Pavilion Supervisor or the Venue Management Office 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

Competitors 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. 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. Avoid laying unprotected cables or pipes on or above paths, walkways or roads.

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 on request.

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 competitors 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) and 1 (b) 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:

COMPETITIVE EXHIBITOR – ROYAL ADELAIDE SHOW

Conditions of Entry

- 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
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 Entry Detail Returns and Notice to Exhibitor mail outs. 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 injuries. St John is not in attendance after public hours. For emergency contact details, check Notice Boards.

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 Management Office 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.

ELECTRICAL EQUIPMENT

1. All extension cords and electrical appliances must be tested and tagged in accordance with current legislation as per Australian Standards 3760.
2. Power boards with overload protection can only be used at the discretion of the Venue Manager.
3. The use of double adaptors is strictly prohibited.
4. Appliances and power cables must not be used or laid through any area that may become wet.
5. Power cables must not be laid across walkways, paths, roads or any area where damage could occur to the cable.
6. Bar (resistance) heaters are strictly prohibited.
7. Light sockets must not be used for any other purpose



ROYAL AGRICULTURAL &
HORTICULTURAL SOCIETY OF
SOUTH AUSTRALIA INCORPORATED

