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UNIVERSITY

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LET'S START >

RACV EB PARTNERS



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THE FIVE CATEGORIES

School students are invited to participate in teams across five unique categories.

The RACV Energy Breakthrough is unique in that all teams must compete across three areas of assessment: **Design and Construction**; **Display and Presentation** and **Trials**.

Innovations in Technology

*Sponsored by
Central Highlands Water*



Pushcarts



TRYathlon

Sponsored by Cyient



Human Powered Vehicles



Energy Efficient Vehicles



DISPLAY & PRESENTATION: 25%

DESIGN & CONSTRUCTION: 25%

TRIAL: 50%

***BONUS TIP:** An extra point gained in Display or Design can be worth up to 10 laps on the track!*



Simon O'Mallon
Lecturer
La Trobe University



Ravi Murty
Head of Sales,
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Andy Buchanan
National Cross
Country Champion

DISPLAY AND PRESENTATION



The purpose of the Display and Presentation is for team members to demonstrate their knowledge and understanding of their entry for a maximum of 20 minutes to a panel of judges. The assessment covers both oral and visual presentation.

Judges are asked to look for evidence of:

- Student involvement & levels of participation
- Team work and enthusiasm
- Individual contributions
- Understanding of the project

DISPLAY AND PRESENTATION



TOP TIPS

1. THINK ABOUT YOUR STORY : THE WHO, WHAT, WHERE, WHEN AND WHY

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WHAT

- o Did you do about fundraising or finding sponsors?*

- o Training and testing did you do?*

WHO:

- o How did you choose your team: who got in and who got cut?*

- o Did you work with anyone from outside your school? (parents, local welders, local bike shops)*

WHEN:

- o Did you work together during school time, after class, on weekends?*

Etc!

2. REHEARSE and SHARE THE LOAD

Create cue cards and know your stuff. Reading from a sheet will mark you down.

3. BE VISUALLY CREATIVE, AND CONSIDERATE OF OTHERS BEING JUDGED IN NEARBY PANELS

BONUS TIP: *Think about the idea that you could score well in this without having your vehicle physically in your Presentation at all.*

DESIGN AND CONSTRUCTION



Following scrutineering, teams will be required to demonstrate to judges that all members have developed a thorough understanding of the Design and Construction aspects of their entry.

As part of the Design and Construction assessment, teams will be required to:

- discuss and explain design and construction processes.
- show all rider safety equipment, including each person's gloves, helmets and glasses.
- show copies of relevant design drawings.

DESIGN AND CONSTRUCTION



TOP TIPS

1. FIRST, DEFINE THE PROBLEM

Understanding what you're trying to achieve is the first step towards considering and developing different solutions.

2. TEST. REVISE. TEST. REVISE.

Part of the design and construction process is to test your ideas and solutions out and then revise them. This cycle repeats until you've got a finish solution.

3. SPLIT UP THE FEATURES OF THE VEHICLE TO EACH TEAM MEMBER:

1. Fairing
2. Chassis
3. Driveline
4. Seat and Rider Comfort
5. Vision and ventilation
6. Lights / Horn / Brakes
7. Steering
8. Your Testing program

DESIGN AND CONSTRUCTION

TOP TIPS

4. Know about the **ENVIRONMENTAL AND SAFETY IMPACTS** of design choices.

5. **BRING STUFF:** Drawings, material samples, models and prototypes.

***BONUS TIP:** Bring some drinks and snacks to munch between Scrutineering and Design & Assessment to get your energy up!*



TRIALS



In this section, the operation of each entry will be tested.

- **Innovations in Technology teams** undertake a Performance Test.
- **Pushcart teams** will tackle a Time Trial, Obstacle Course and an Endurance Relay.
- **Try-athlon teams** will tackle a Time Trial, Obstacle Course and an 8-hour Endurance Trial.
- **Secondary Human Powered Vehicles (HPVs)** and **Energy Efficient Vehicles (EEVs)** participate in a 24-hour trial on a street circuit in Maryborough.
- **Primary Human Powered Vehicles (HPVs)** complete a 14-hour trial on a street circuit in Maryborough.

TRIALS



TOP TIPS

1. RELAX

When you're in the vehicle on track, try to relax and enjoy it. It can be lonely out there, and you've got to work hard to keep mentally 'in the zone'.

2. THINK POSITIVE

Try to hold some happy memories in your mind when the going gets tough. Perhaps some thoughts about how much work you and your team mates did to get to the event.

3. PRACTICE

- Practice in the vehicle when you can, you don't need to do overdo it. You need enough to feel confident.
- Practice your pit changes, this can be valuable time.
- Do something every day to make yourself ready to perform at your peak:
This might include going to bed early tonight, eating healthy foods. Andy Buchanan aims to run every day to improve his performances. What could you be doing?

TRIALS

TOP TIPS



4. DON'T WORRY ABOUT WHAT EVERYONE ELSE IS DOING

It's not worth the stress. Prepare yourself for 3 hours of riding if you're in secondary school team, 1.5 hours in the HPV Primary or 1 hour in the TRYathlon Endurance trial.

5. KEEP IT ON AT LEAST TWO WHEELS

Return to Pits stickers suck time from your team and crashes will damage your vehicle. Push hard, but know your limits.

6. SET YOURSELF A GOAL

Set yourself personal and team goals for the event. Maybe you want to do the most laps your school has ever done; or the fastest lap you personally have ever done; or the most laps / time in a single stint that you have ever done. Whatever it is, this will help drive you on!

BONUS TIP: *Bring some cheer! The Energy Breakthrough is a great team event and cheering on and supporting other teammates will help them stay in a positive mental zone during their effort and avoid feeling lonely!*

THANK YOU

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