



## Project Presentation

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2020

THE AUSTRALIAN  
UNIVERSITIES ROCKET  
COMPETITION



The final assessed deliverable for the AURC 2020 is the project presentation. This deliverable allows teams to showcase their entire rocket development and discuss notable or innovative features of the engineering process or rocket itself. The presentation will include rocket design, modelling and simulation at minimum.

The maximum length of the final presentation is 30 minutes (leniency of 2 minutes). If your presentation exceeds this time, you will be asked to stop. The 30-minute presentation will be followed by a 15-minute Q&A. If your team has both a 10 000ft and 30 000ft entry, we ask you to lock in a singular presentation slot and prepare a singular presentation. You will get 40 minutes (instead of 30) to present if you are presenting for both entries. If this presents significant issues, please contact us as soon as possible.

All presentations will occur live over Zoom, where the presenters are expected to screen share to all in attendance. Teams should practise with Zoom ahead of time to avoid technical issues on the day of the presentation. Consider video quality, audio quality, stability of internet connection(s), etc. To allow for fair marking should connections fail the presentations will be recorded, this recording will be kept securely and will only be used for the purpose of marking, after which it will be deleted.

The presentations will occur on the 21<sup>st</sup> and 22<sup>nd</sup> of October 2020. Available meeting slots are on a first come first serve basis and can be booked through the link in the email provided with this brief. Please note that no other time slots are available. All teams are required to submit their slides (.pdf) by Tuesday the 20<sup>th</sup> of October 11:59 AEST through the online submission portal.

We recommend using only one or two presenters; however, we will allow up to a maximum of 5 people to attend your presentation. This is 5 people in total, regardless of on how many calls you join in on. This is done for a multitude of reasons, one of which being to ensure a fair deliverable, regardless of potential restrictions in place.

Presentations will be worth a maximum of 100 marks and will be marked by a panel of experts. Markers will refer to a marking rubric when grading presentations; concerns and considerations noted in team meetings with all team leads have been listed and taken into account. These range from consideration for teams that have been unable to attend in person, to teams that are brand new and as such have never had the chance to launch, to teams that have progressed as normal and are on track to launch.

## Required Information

The presentation outline below presents a guideline as to how you could structure this presentation. It is expected that teams show critical thinking and innovation when approaching this challenge. The panel of markers will be looking for excellence and creativity, and they will want to see your team go above and beyond what is outlined.

The presentation is to contain the following information at a minimum, further detail can be added as teams see fit.

- ▶ Introduction
- ▶ Full System overview
  - Design methodology
- ▶ Rocket Design
  - Key components and their functions
- ▶ Simulation, Modelling, Manufacturing
  - Simulation approach and expected results
  - Component modelling
  - Manufacturing techniques, processes and/or plans
- ▶ Innovation
  - Choose up to two aspects of your rocket or engineering process that are unique or innovative to your team
    - Topics here can include: payload, manufacturing techniques, extra systems
- ▶ The Team
  - SWOT analysis of the team (as compared to your SWOT analysis in PR1)
  - Timelines, progress, tests and challenges
  - Future plans; could include growth, AURC 2021, other projects, future goals, etc.
- ▶ Conclusion

## Awards

Final results will be announced on Friday the 23<sup>rd</sup> of October. The marks associated with this deliverable were decided upon with the consideration that every team still in the competition, regardless of their current position, could still place 1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> in the competition.

### AURC Awards

Similarly, to the AURC 2019, and the coming AURC 2021, there will be one Overall Competition Winner, which will be one of the two category winners (whichever has the highest overall score).

- ▶ One 10 000ft Category Winner
  - a. One 10 000ft Runner Up
- ▶ One 30 000ft Category Winner
  - a. One 30 000ft Runner Up.

The following awards are completely independent from a team's ranking on the AURC Leaderboard:

### AYAA Award for Technical Excellence

The AYAA award for Technical Excellence recognises a team which demonstrates exceptional overall engineering discipline and technical skill through their analyses and conclusions, project or program planning and execution, operational procedure, manufacturing processes, iterative improvement, systems engineering methodology, robust design, etc.

### AYAA Award for Innovation

The AYAA Award for Innovation recognises a team whose project includes one or more features (including analytic or operational processes as well as components or assemblies) the marking panel finds genuinely "novel", "novel", "inventive", or solving a unique problem identified by the team.

### Shoal Awards for Modelling and Simulation

Shoal Group will award the best modelling and simulation rocket submission with the Shoal Award for Modelling and Simulation. This award is presented to the team which has demonstrated exemplary efforts in de-risking their rocket submission through thorough modelling and simulation practices.

The submission must demonstrate a well-thought-out modelling and simulation approach, with accompanying validation strategies and methods used. Analysis of results and decision-making surrounding assumptions and parameter selection will also be scrutinised. This award is tool-agnostic and method-agnostic. Each submission will be reviewed by Shoal's world-class engineering team. Shoal engineers have been involved with major space modelling and simulation projects including the JAXA Hayabusa spacecraft re-entry into Australia and the revision of the Australian Space Agency's Flight Safety Code and Maximum Probable Loss Methodology.

There will be several Shoal engineers during each presentation who will be marking each team's modelling and simulation approach as well as the team's overall presentation. Shoal will be recognising the following:

- ▶ 1<sup>st</sup> Place (Shoal Award for Modelling and Simulation Winner)
- ▶ 2<sup>nd</sup> Place (Runner-up)
- ▶ 3<sup>rd</sup> Place
- ▶ Most Improved Modelling & Simulation Approach

## Further Information

Some general presentation pointers are provided to assist teams:

### *Presentation Content & Structure:*

- ▶ Introduction
  - Give a brief background to the topic
  - Present a clear outline of the key issues
  - State your objectives
- ▶ Presentation body
  - Present each issue in a logical sequence
  - Justify your decisions with sourced information
  - Address all areas and more
- ▶ Conclusion
  - Did you complete your objectives?
- ▶ Future work, plans, considerations...

### *Media Quality (Slides):*

- ▶ Format of slides should be clear and easy to read
- ▶ Font should be sufficiently large
- ▶ Figures and drawings should be clear, easy to follow, and consistent
- ▶ The information presented should be succinct, not too detailed
- ▶ Grammar and spelling should be error free
- ▶ Sourced material should be cited

### *Speaker:*

- ▶ Use appropriate semi-formal language
- ▶ Use appropriate body language
- ▶ Maintain eye contact
- ▶ Do not read from notes / screen
- ▶ Speak at a reasonable volume
- ▶ Speak at a reasonable pace
- ▶ Integrate figures / illustrations / slides into discussion
- ▶ Presentation should be an appropriate length

How to Speak by Patrick Winston, MIT Professor: <https://youtu.be/Unzc731iCUY>

Any academic referencing method is acceptable, but it must be applied consistently. Read this brief carefully, and if you have any remaining questions please contact [aurc@ayaa.com.au](mailto:aurc@ayaa.com.au).