

Sponsorship Prospectus

The Drop Bears

FIRST Robotics Competition Team 4774



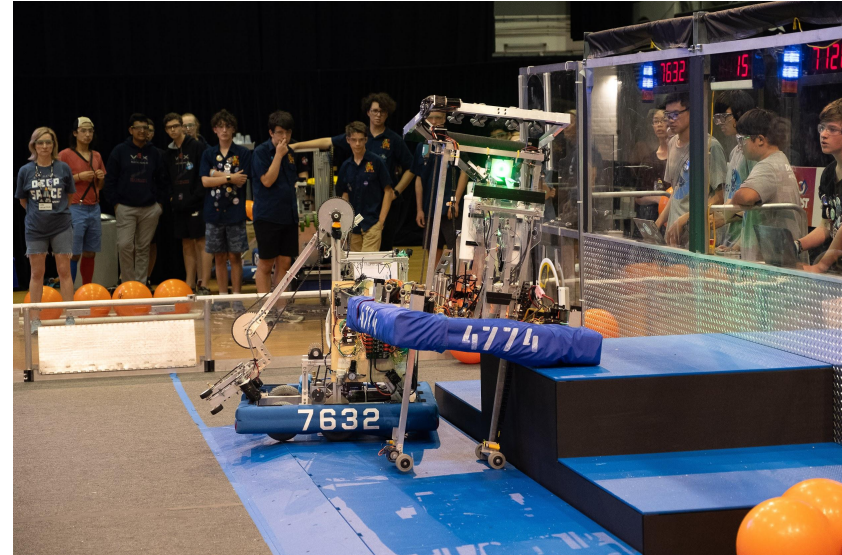
2019

About Us



The Drop Bears is a high school robotics team with students from all over Sydney in years 8 - 12. We compete in sports-like competitions on an international scale attracting more than 3000 teams. The focus of the team is to design, build, and program a new robot each year to participate in the FIRST Robotics Competition (FRC).

FIRST is a not-for-profit organisation that inspires today's youth in areas of Science, Technology, Engineering and Mathematics (STEM) by hosting a new challenge each year for teams to compete in.



Inspiring Youth



We aim to engage students from across Sydney in areas of STEM, introducing important industry experiences. These skills are tested in a working environment where we design, fabricate and program a robot to fulfil the challenge of the game. Students learn skills in project management, communication, managing finances and running a team. We operate as a student-run organisation with adult mentors in relevant fields, working alongside students to guide them and develop their skills. Currently, we are comprised of 50 members and with your support hope to develop the team further.

We focus on teaching skills and abilities such as:

- Teamwork
- Programming
- Design & CAD/CAM/CAE (Computer Aided Design / Machining / Engineering)
- Project management
- Communication skills
- Conflict resolution
- Time management
- Problem-solving
- Manufacturing techniques



About Us



Design

Design a robot and all included modules using technology such as CAD.

Program

Write code to allow the robot to complete all necessary tasks.

Build

Use engineering skills to construct and fabricate a robot that meets functional requirements.

Schedule

Six weeks from receiving the challenge to delivering the final robot.

Competition

Compete against teams, in both domestic and international competitions.

Outreach

Engage and recruit high school students from across the Sydney region.

Our People

The Drop Bears combines the fun of engineering, communication, and teamwork in a way that cannot be found in any other setting. Since I joined the team in 2017, I've become familiar with many skills and principles that are crucial in engineering, and have discovered an immense satisfaction in creativity and problem solving that has made me pursue further education and career possibilities in the field of engineering. The team has made me realise the importance of teamwork and communication, and how project management is a vital part of getting a project from conception, through to completion.



Nicky Vera
Co-Driver, 2019



The experiences I gained through my time in the team have been vital in preparing me for both further studies in engineering and work within the industry. Through the many long-term projects I worked on I developed my ability to work in a team environment both in a leader capacity, and as a follower. Through working as part of the project management team, I learnt how to manage large groups in order to achieve project goals and timelines.

Nathan Brown

Studying Mechanical Engineering & Diploma of professional engineering at University of Technology Sydney
Drop Bears Alumna, 2018



“The University of Sydney and The Australian Centre for Field Robotics is proud to have hosted The Drop Bears for the last 5 years. It's also personally gratifying to help students discover their passion for STEM subjects, and apply their passion in a way that goes beyond what they could do at school.”

“We'd love for you to join us on this journey.”

Dr James Ward

*Australian Centre for Field Robotics at The University of Sydney
Head Mentor, 2013 - 2019*



“Warren Smith & Partners have been sponsors since 2014. We have had the team and their robots at some of our company marketing events. As a mentor it is a rewarding experience and we would be thrilled to have one of the graduates work in our firm. The experience in strategic planning, design, building and project management that the students gain can be applied to a great variety of technology related professions.”

Andreas Heintze

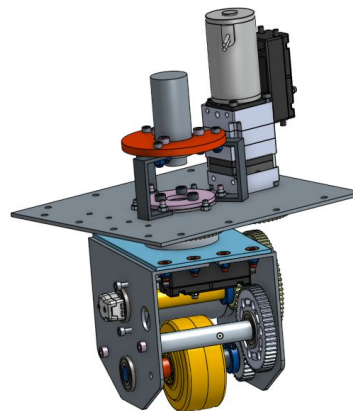
*Chief Operating Officer at Warren Smith & Partners
Head Mentor, 2013 - Present*

Swerve Drive

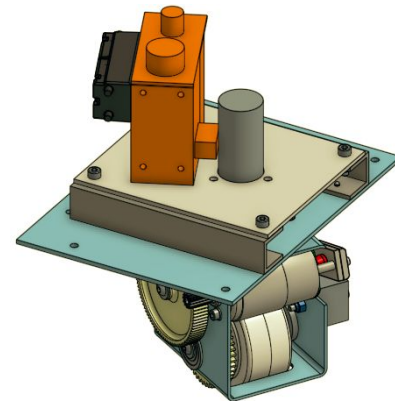


Swerve Drive: An omnidirectional drive train enabling 360 degrees of freedom in motion.

This year we concentrated on refining our iconic swerve drive. We are currently the only team in the southern hemisphere. that have developed their own swerve drive system. This system allows our robot to travel in any direction like a powered shopping cart giving us unprecedented agility on the field. In the off season we will continue to develop our modules, this year we successfully optimized resulting in significant weight and space saving. Future work is focused on increasing robustness by utilizing new motors that have recently become available for FRC.



Swerve
Mk1



Swerve
Mk2

2019 Achievements and Awards

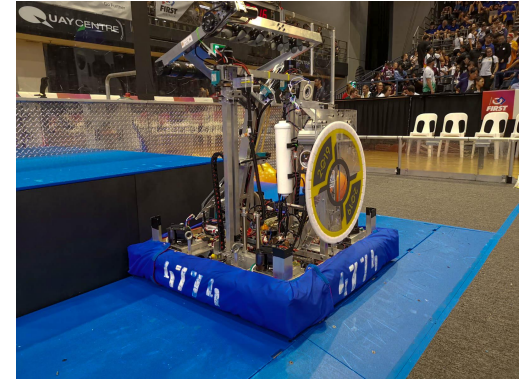


In the 2019 competitions, our team competed alongside teams from around the world in the Southern Cross ,South Pacific, and Canadian Rockies regionals. We achieved an outstanding result Throughout our competitions . Alongside alliance partners, The Drop Bears were semi-finalists at the Canadian Rockies regional and quarter finalists at both the Southern Cross and South Pacific regionals.

Awards:

At the Southern Cross regional we implemented our most sophisticated control system to date; utilizing multi camera vision tracking and a suite of onboard sensors that allowed us to automate various routines. Competition judges awarded us with the 'Autonomous Award' because of our one button routine that allowed us to execute deployment of our climb routine and auto alignment that allowed us consistent scoring.

More text here.





Looking Forward

Looking forward we hope to expand our workshop so that we may be able to further refine swerve drive and develop other innovative projects. To that end, we need your help to achieve this and other goals.



Travel

A recurring goal for our team is to reach the FRC World Championships, which are held in the US. These prestigious competitions require the team to win a domestic or overseas regional competition. However, this does not include tickets, robot shipping, accommodation and food. Funds allocated for this go towards subsidising travel for our students and mentors.



Event Registration

Our team pays a registration fee for each FRC competition event. This registration fee includes two Sydney FRC Regionals, an overseas FRC Regional, Duel Down Under (an offseason event) and the Kit of Parts (a standard kit that teams receive each season containing a barebones chassis)



Tools and Equipment

Our team has a modest library of hand and power tools, however additional funds to purchase new equipment will supply us with the tools to expand our technical skills, improve our manufacturing capabilities and increase our production quality. This will allow us to grow our team's ability to run more projects and increase our resources to produce higher quality robots.

2018 Budget



Team running costs for 2018. The team raises a modest amount from affordable annual membership fees. We rely on the generous support of our sponsors, government and private grants to compete in each year's competition.



Budget Breakdown

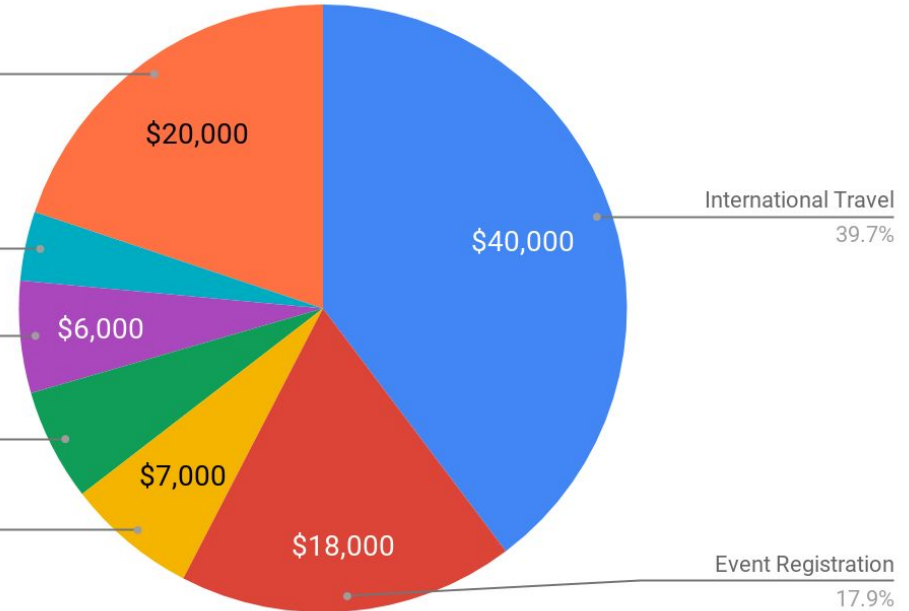
Robot Build Cost
19.9%

Team Uniforms
3.7%

Materials
6.0%

Off-season Activities
6.0%

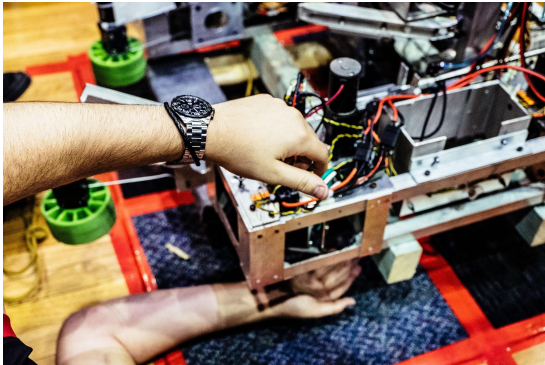
Tools
7.0%





How Your Sponsorships Helps

Right now we are looking to fund the following items, sponsoring one of the following items or sponsorship tiers is greatly appreciated.



Item	Cost	Description
Workshop Equipment	\$10,000	This sum would pay for additional fabrication equipment and testing hardware.
FRC World Championship travel	\$2,500 per person	Airfares, accommodation and food to the US should we win an FRC Regional event and qualify for the World Championship.
Overseas FRC Regional	\$2,500 per person	In previous years our team has travelled to the USA and Canada.
Event Registration	\$30,000	This amount covers the cost of registering for three regional events.

Sponsorship Tiers



Platinum
\$10000+

Gold
\$5000+

Silver
\$2500+

Bronze
\$1000+

Have any suggestions?

We are open to suggestions for other ways your business can help us, please contact us to discuss sponsorship options.

Please get in touch, regardless the scale of your potential involvement, we welcome your support. Please email us at sponsorship@thedropbears.org.au

2018 Sponsors



Host and Platinum Sponsors



Platinum Sponsor



Gold



Grants



Australian Government
Department of Industry,
Innovation and Science



Office of the
Chief Scientist
& Engineer

JAMES N. KIRBY
FOUNDATION

Contact us



Keep in touch:

Website: www.thedropbears.org.au

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