

UJMS A&E

SPONSORSHIP PACKAGE

2022

2023





WHO WE ARE

The University of Manitoba Society of Automotive Engineers, better known as UMSAE, is a non-profit student organization made up of 4 distinct teams. We develop our professionalism, project management & design skills through creating vehicles to compete in international competitions.

With roots going back as far as the Mini-Indy SAE competitions in the 1980's, UMSAE has given countless students the opportunity to apply their education to real world challenges, and to represent Manitoba on a global scale.

UMSAE OUTREACH

In 2018, we kickstarted a new initiative for our organization in the form of the A World In Motion (AWIM) Learn Twice program, run by SAE International. AWIM gives our students the opportunity to give back to local communities while also benefiting our organization and engaging our membership.

UMSAE members mentored and instructed primary school students in STEM programs involving hands-on learning experiences. Our post pandemic ambitions include expanding the program to include more instructional sessions and reaching more schools and age groups.



The objective of the Aero Design Competition is to design an RC aircraft according to design specifications and requirements that change every three years. For the 22-23 season, Aero will be challenged to produce a sub-sectioned high-aspect ratio aircraft that can lift the heaviest possible payload. In order to succeed in this design challenge, the team must balance the reliability of their aircraft against its lifting capacity in order to complete multiple flights at competition in Lakeland, Florida.

Additional limitations on maximum power, wingspan, and takeoff distance force the team to think critically when designing the aircraft and anticipate its maximum payload. Throughout the year the team performs aerodynamic and structural analyses along with materials and performance testing using software and experiments including full-scale flight tests.



AERO





In the spring of 2022, UMSAE Aero placed second overall in a field of competitors from universities all over the world. UMSAE Aero has reached the podium each of the last five years it has gone to the Aero Design East competition, including first place finishes in 2018 & 2019. Our goals this year are to further optimize our design, construction, and management processes and achieve a podium finish once again.

BAJA

The UMSAE Baja team designs and builds a single seat four-wheel drive off-road vehicle every academic year to compete in an international competition hosted by SAE International. The competition consists of 2 static and 5 dynamic events. These events are: the sales presentation, the design presentation, acceleration, sled-pull, maneuverability, suspension, and a four-hour endurance race. The Baja team functions to design, manufacture, test, and promote the vehicle as a prototype for a production off-road vehicle.

The dynamic competition events subject the Baja vehicle to rough, muddy terrain and difficult obstacles. The Baja team must design a vehicle that is robust and rugged, but still able to maintain a competitive speed.





During the design phase, each engineering student must try to balance trade-offs in areas such as lightweight design vs. durability, or top speed vs. low end torque, while keeping manufacturability and serviceability as key foundations of their designs. With most of the design and building done in-house, we are able to keep these attributes at the forefront of our work.

In the summer of 2022, UMSAE Baja competed in Rochester, New York and placed 55th overall among 88 international teams with the sled pull and sales presentation events being the highlights, where the team placed 15th and 26th out of 88, respectively. Like any major project, the team is limited by time, money, and manpower, especially during the school year. Despite these constraints, the team is competitive every year, striving to improve performance, design, and manufacturing, thanks to the support of great sponsors like you!



Originating in 1986, the Formula division of Polar Bear Racing annually designs, manufactures, tests and races an open-wheeled, combustion engine race car. The car is designed to compete in SAE International competitions and is designed in accordance with regulations published by the organization. Competitions consist of static and dynamic events. Static events include presentation, cost, and design. Dynamic events include acceleration, skid pad, autocross, fuel efficiency, and endurance.

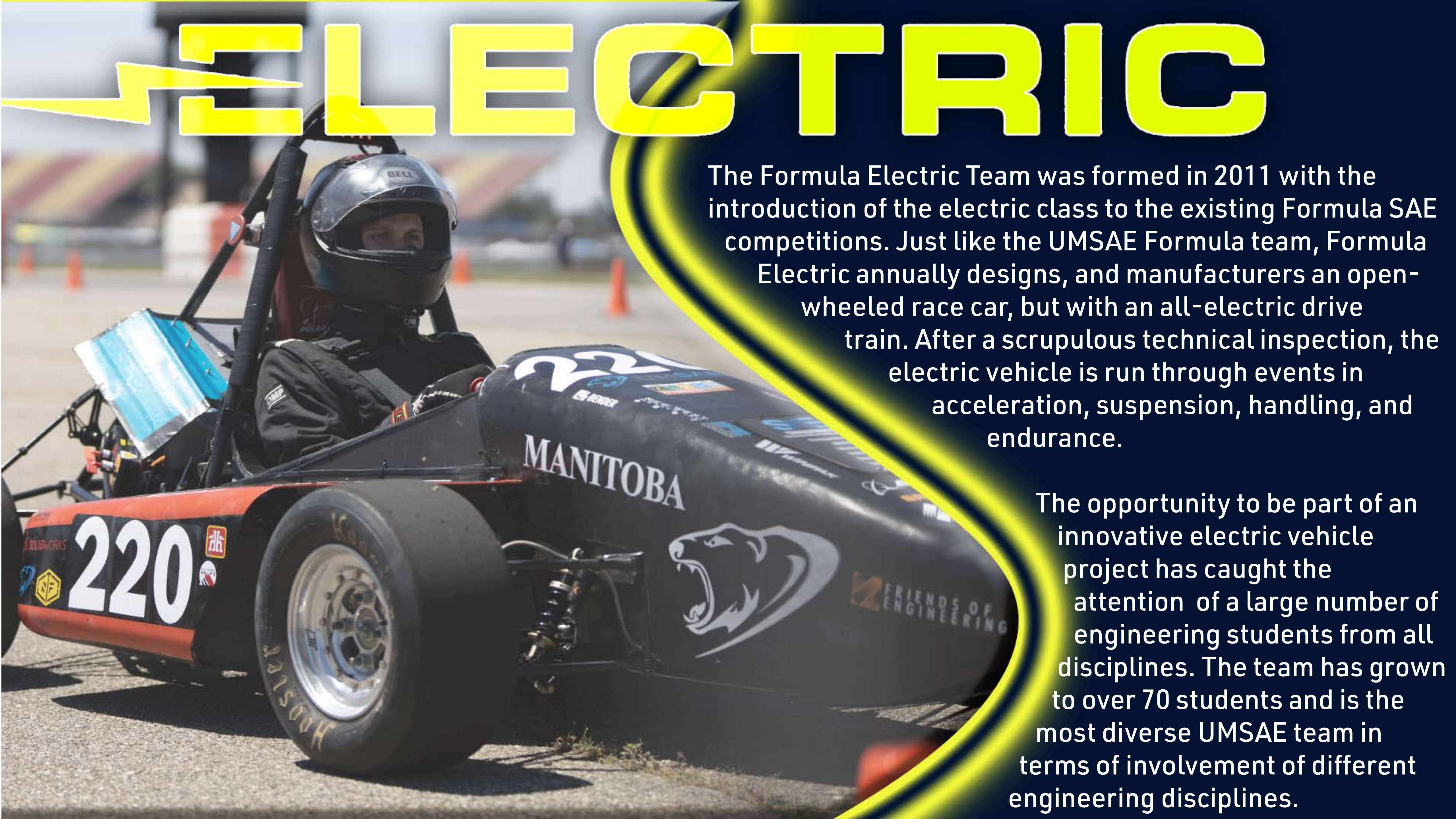
The Formula Team consists of approximately 20 members who are responsible for the entire design and construction of the vehicle. Due to the complexity of the vehicle, members are exposed to a wide assortment of engineering challenges, from aerodynamic design to engine mapping. Using tools such as CAD and FEA, members can gain valuable experience and prepare themselves for successful engineering careers.

1 FORMULA

The Formula Team participates in annual competitions located in the United States. Competitions which attract teams globally to compete against the top teams of North America. These competitions present a unique opportunity to represent Manitoba on a global scale.

In 2015, the Formula Team placed 10th out of 75 teams at FSAE Lincoln. The team has not been able to attend competition since 2018 due to manufacturing delays and COVID-19, but the team is determined to present a car this season. Manufacturing has already begun for PBR23 and we look forward to unveiling it.





ELECTRIC

The Formula Electric Team was formed in 2011 with the introduction of the electric class to the existing Formula SAE competitions. Just like the UMSAE Formula team, Formula Electric annually designs, and manufactures an open-wheeled race car, but with an all-electric drive train. After a scrupulous technical inspection, the electric vehicle is run through events in acceleration, suspension, handling, and endurance.

The opportunity to be part of an innovative electric vehicle project has caught the attention of a large number of engineering students from all disciplines. The team has grown to over 70 students and is the most diverse UMSAE team in terms of involvement of different engineering disciplines.

As a part of Formula Electric, students have the unique opportunity to develop real life experience with electric motors, power management, app development, mechanical, and electromechanical design. Each year, the team strives to improve designs, either iteratively, or with brand new concepts, including improvements in manufacturing processes, better reliability, an updated driver interface, and improved datalogging and monitoring.

The Formula Electric team placed within the top 10 teams in the 2018 Electric competition. In June 2022, even after 2 gap years of pandemic restrictions impeding SAE competitions and experience, Formula Electric competed to place 14th out of 55 electric vehicles at SAE Michigan. Furthermore, during the June 2022 competition, the team was 1 of 6 vehicles to complete the famously difficult endurance event, which had the team race the vehicle for over 22km without failure. This was the first time in the team's history, in which the team has fully completed the endurance event.



WHY SPONSOR UMSAE

Sponsorship is essential for the success of UMSAE and its various design teams. Both monetary and material contributions are vital to the operation of this non-profit student organization. UMSAE strives to assure our sponsors promotional needs are met and showcase the results of their contributions. There are plenty of excellent reasons to sponsor UMSAE; As a non-profit organization, all of the funds contribute towards improving our facilities, purchasing materials, and fabricating parts used in our designs.



Funding our projects helps us build upon our practical engineering work experience, developing students beyond what is capable in the classroom alone. You are investing in the future of engineering!

Sponsors help develop a network of highly capable engineering students interacting with industry contacts, giving their companies excellent future hiring potential. Brands promoted on our vehicles are represented on a global stage when our teams travel to SAE's international competitions.





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Yes

Yes

Yes

Yes

Yes

Yes



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Large

Medium

Small

Small

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HOW TO SPONSOR UMSAE

For more information on our sponsorship program, visit

www.umsae.com/contact

You can also reach out to our Sponsorship Executive at

sponsorship@umsae.com