



MOONBUGGY ENGINEERING TEAM SPONSORSHIP PROPOSAL

2025



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MESSAGE TO SPONSORS

Greetings from the Moonbuggy Engineering Team, an undergraduate project team from the University of Puerto Rico at Mayagüez (UPRM). We seek your support to help us become one of the most recognized projects at UPRM and further our mission of excellence in engineering and community engagement. Your sponsorship will assist us in securing the necessary resources for the design, manufacturing, testing, and optimization of a human-powered lunar rover, as well as support our community outreach efforts in STEM education. We invite you to partner with us as we strive for success in the NASA Human Rover Exploration Challenge (HERC) and beyond.

Our team, affiliated with the Mechanical Engineering Department, is organized into seven vital departments: Chassis, Steering, Wheels, Powertrain, Suspension, Task Tool, and Business Development. We focus heavily on the manufacturing process, providing our members with hands-on training in essential techniques and tools, such as computer-aided design (CAD), finite element analysis (FEA), and geometric dimensioning and tolerancing (GD&T), as well as practical manufacturing skills like welding and the use of power tools. This hands-on experience is crucial for their development as future engineers and leaders. For the competition, we are manufacturing our rover entirely from scratch, which requires extensive raw materials, specialized tools, and electronic components, alongside establishing a new workshop area to enhance our manufacturing capabilities. Your support will be crucial in propelling our lunar exploration initiatives forward.

We also place a strong emphasis on community engagement through STEM activities. Your sponsorship would help us extend our outreach efforts, inspiring the next generation of engineers and scientists. As a valued sponsor, you will be a key part of our journey, sharing our achievements during future competitions and contributing to a project that proudly represents both the University of Puerto Rico at Mayagüez and Puerto Rico on national and international stages.

Sincerely,



Alana Cruz
Team Captain



Brittany Justiniano
Team Co-Captain



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ABOUT US

The Moonbuggy is a vehicle built by students from the University of Puerto Rico at Mayagüez (UPRM) to compete in NASA's Human Exploration Rover Challenge (HERC). This rover simulates a lunar vehicle designed for future missions on the Moon. Founded in 2011, the UPRM Moonbuggy Engineering Team has actively participated in NASA's Human Exploration Rover Challenge, celebrating the diversity and resilience that define us. This endeavor engages students and the community, fostering learning in STEM disciplines and inspiring innovation and creativity in scientific and engineering pursuits.

Our team, consisting of 35 members, is structured into seven specialized departments—Chassis, Steering, Wheels, Powertrain, Suspension, Task Tool, and Business Development—each playing a crucial role in the manufacturing and operation of the Moonbuggy. The team operates under the guidance of Prof. Pedro Quintero whose expertise and supervision are vital to our success.

Our objective is to manufacture a lightweight, strong, and cost-effective human-powered space exploration vehicle. The competition, held annually at the U.S. Space and Rocket Center in Huntsville, Alabama, requires designing a vehicle that can withstand engineering challenges similar to those faced by the Apollo 11 team. Each rover must be powered by two students (one male and one female) on a track that simulates lunar terrain, including craters, rocks, slopes, and lunar traps.

MISSION AND VISION



Mission

To achieve 1st place among 42 universities from 15 countries, representing Puerto Rico internationally and applying engineering principles in real-world settings.



Vision

We envision a community dedicated to continuous learning and excellence, fostering growth and inspiring our community to push the boundaries of possibility, supporting career growth and development.

“KNOWLEDGE AND EXPERIENCE IS OUR FORMULA FOR SUCCESS”



ABOUT THE COMPETITION



The NASA Human Exploration Rover Challenge (HERC) engages students worldwide in designing and testing human-powered rovers for challenging terrains, inspired by the Apollo and Artemis missions. Participants gain hands-on experience with technologies needed for future space exploration, navigating obstacle courses under strict time and weight constraints. The competition fosters the next generation of scientists and engineers, equipping them with essential skills for humanity's next giant leap into the solar system.

ACHIEVEMENTS

Over the years, we have consistently achieved significant milestones in the HERC competitions. We aim to build on our legacy, striving for greater heights and more groundbreaking innovations in our field.



2013, 2014, 2015

Best Report Award



2017

Most Improved Award



2017

3rd Place Overall



2019

1st Place Overall



2022

Videography Award



2023, 2024

4th Place Overall



COMMUNITY AND OUTREACH IMPACT

Beyond competitions, our team is deeply committed to community engagement and STEM outreach. We periodically conduct workshops, demonstrations, and educational events to inspire the next generation of engineers and scientists. Last year alone, we engaged with around 600 students through these activities, sparking curiosity and interest in STEM fields among young students in our community.



By sponsoring our team, your company will support and expand these efforts, reaching more students, making a lasting impact on the future of STEM education. As a sponsor, your company will be recognized at all our outreach events, demonstrating your commitment to education and community development. This partnership will not only benefit our team but also contribute to the growth and enrichment of the wider community.



ESTIMATED BUDGET

TOTAL ANNUAL EXPENSES

\$23,100

ESTIMATED MANUFACTURING COSTS OF ROVER

DEPARTMENT	COST
Chassis	\$2,800
Wheels	\$1,500
Powertrain	\$2,200
Suspension	\$1,200
Steering	\$1,000
Task Tool	\$1,300
Miscellaneous	\$500

TRIP EXPENSES FOR APPROXIMATELY 8 STUDENTS

EXPENSE	COST
Airplane Transportation	\$2,800
Hotel	\$4,500
Ground Transportation	\$600
Shipping & Handling of Vehicle	



WHY SPONSOR US?

As one of the longest-established teams at the university, your contribution will ensure we continue to compete and proudly represent Puerto Rico and the University of Puerto Rico at Mayagüez. By supporting our goals of competing at a higher level, you allow us to promote your brand on a global stage through our events and achievements. This partnership not only enhances your company's visibility and positive association within our community but also plays a vital role in advancing STEM education and innovation. Together, we can inspire the next generation of engineers and scientists, creating lasting impacts within our community and beyond. Your support will help us reach new heights, fostering a culture of learning, creativity, and excellence.



SPONSORSHIP PACKAGES

BENEFITS	GOLD (\$5,000+)	SILVER (\$3,000-\$4,999)	BRONZE (\$1-\$2,999)
Social Media Promotion	✓	✓	✓
STEM Engagement Activities	✓	✓	✓
Sponsors Logo on Website	✓	✓	✓
Logo on Rover	✓	✓	
Logo on Team Manufacturing T-Shirt	✓	✓	
Sponsors Logo on Team Polo	✓		
Logo on UPRM's Center of Investigation and Development Workshop	✓		

NEXT STEPS

We invite you to join us on this exciting journey. Your support will be crucial in helping us achieve our goals and inspire future engineers. Whether through financial contributions or in-kind donations of services, materials, or equipment, your involvement will make a significant difference. For the next steps to become a valued partner in our success, please contact us at moonbuggy.design@gmail.com or speak directly with our team captains.



OUR CURRENT SPONSORS



CONTACT US



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