

The Notre Dame Rocketry Team

**Sponsor Partnership Brochure
2026 - 2027**



About NDRT



Our Mission

NDRT's mission is to inspire and educate the next generation of aerospace engineers and rocketry enthusiasts by providing team members with hands-on engineering experience through the NASA USLI challenge and the team's new liquid propulsion project, while also conducting educational outreach events in the surrounding community.

Who We Are

With over 60 active members from every grade and experience level, NDRT consists of an extremely diverse, innovative, and creative group of students dedicated to pushing the boundaries of collegiate rocketry.



Sponsors



Building Rockets is Expensive

The Notre Dame Rocketry Team relies on support from sponsors to compete in national competitions, develop future engineering professionals, and impact the local South Bend community. Generous contributions allow us to inspire teamwork, creativity, and innovation in our members. NDRT values any amount of time, support, or money to help us continue our mission.

Why Become a Sponsor?

As a sponsor of NDRT, you will contribute heavily to the team's success and share in our accomplishments throughout the year. Sponsors benefit from social media and online exposure, mentorship opportunities, and access to NDRT's talented pool of engineers. Specific sponsorship perks are dependent on the level of donation, as outlined on the next page.



Please consider sponsoring NDRT

Your generosity makes what we do possible



Sponsorship Tiers



Golden Dome // \$25,000+

- A launch dedicated to your company
- Multiple meetings with NDRT throughout the year
- Complimentary NDRT merchandise
- Priority logo placement
- All the benefits of previous tiers

Platinum // \$10,000+

- Company logo on the rocket during national competitions
- 1 Meeting with NDRT leadership during each semester
- Year-round resume book access
- All the benefits of previous tiers

Silver // \$1,000+

- Informational session with NDRT during recruiting season
- Company logo on the team newsletter
- All the benefits of previous tiers

Bronze // < \$1,000

- Company logo on the team website
- Subscription to the NDRT newsletter

All donations are tax deductible

NDRT is also open to discussing support in the form of product discounts or mentoring.



NASA Student Launch

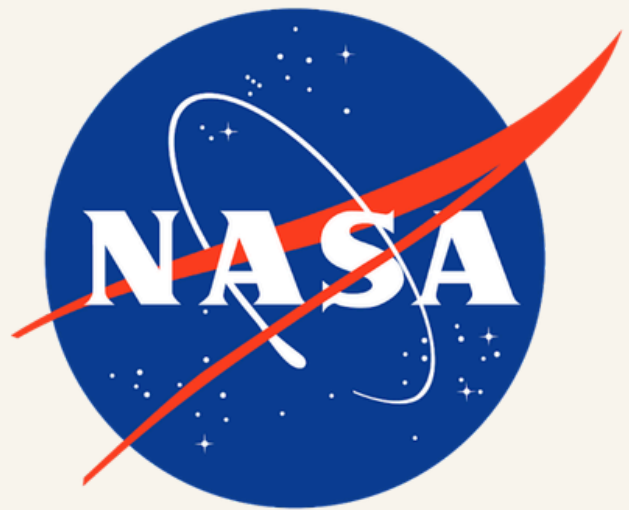


About

Every year, the Notre Dame Rocketry Team competes in the NASA Student Launch, where dozens of universities spend 10 months designing, building, testing, and flying high-power rockets while documenting all findings. After months of hard work and innovation, we launch our rocket at the final competition in Huntsville, Alabama. Our goals include recognition for our altitude, payload design, and educational outreach.

Milestones

- Proposal
- Preliminary Design Review
- Critical Design Review
- Flight Readiness Review
- Subscale Launch
- Fullscale Launch
- Competition



Results

2026 - 4th Place Overall

- 1st Place // Safety

* Runner-up awards not given

2025 - 4th Place Overall

- 2nd Place // Project Review
- 3rd Place // Education
- 3rd Place // Vehicle



Meet the Squads



Vehicles

- Designing, constructing, and testing the vehicle airframe
- Executing simulations for various mass distributions, weather, and initial condition scenarios

Recovery

- Responsible for vehicle separations and parachute deployments
- Performing simulations to determine structural components needed during in-flight events

Payload

- Designing, constructing, and testing a unique experimental payload each year, depending on NASA specifications

Apogee Control System (ACS)

- Developing a computer algorithm to predict apogee throughout flight
- Designing, constructing, and controlling variable drag surfaces to arrive at the target apogee

Systems

- Enforcing NASA requirements and creating internal team requirements
- Validating subsystems and computational models with experiments

Electrical

- Designing PCBs and ensuring electronic components are safely and effectively connected

Safety

- Creating and enforcing hazards documentation, including failure modes, project risks, and personnel and environmental hazards



Notre Dame Experimental Propulsion

With NDRT's recent success in the NASA Student Launch competition, the team sought new ways to challenge its members and push the boundaries of collegiate rocketry. NDXP was created to give Notre Dame students the opportunity to learn and get hands-on experience with liquid rocket propulsion. NDXP began developing its first engine, *Alpha*, in 2024 and its first flyable engine, *Genesis*, in 2026. NDXP aims to have its first flight by 2028.

Alpha at a Glance

- Propellants // Gaseous Oxygen & Liquid Ethanol
- Predicted Thrust // 200 lbs
- Cooling Method // Heat Sink



Engine Genesis

After great success with *Alpha*, NDXP is taking a leap forward with *Genesis*, a flight-ready Inconel engine designed to push the team firmly into the realm of competitive liquid rocketry. Due to a fast-growing group of members, NDXP split into squads similarly to USLI, including: Engines, Structures, Avionics, and Fluids. The technical challenges associated with developing a flight-ready liquid rocket engine are daunting, but NDXP is confident it can succeed in tackling the most ambitious engineering project in Notre Dame's history.

A New Technical Frontier

Material: Inconel 625

- 3D Printed, structural resilience

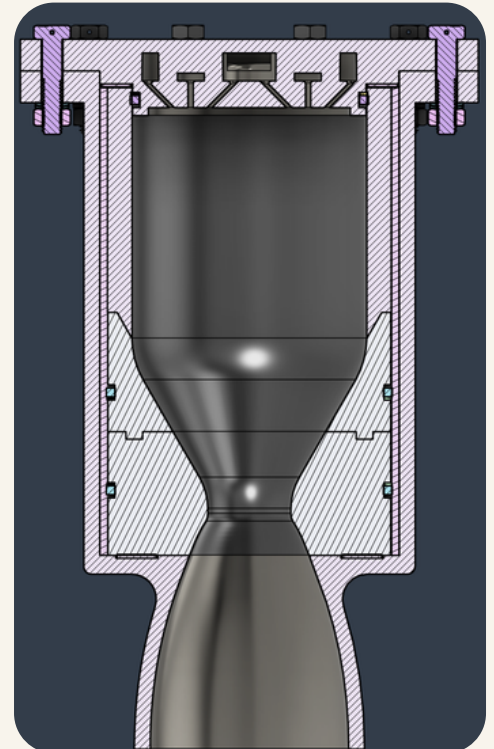
Propellants: Liquid Oxygen and Ethanol

- High specific impulse, clean combustion

Cooling Method: Ablative Cooling

- Resin charring provides a robust thermal barrier, ensuring structural integrity

Thrust: 800 lbs



Educational Outreach



Impact

NDRT not only allows college students to share in their passion for aerospace, but also encourages them to instill that same passion in the community through educational outreach efforts. The team has worked with thousands of community members and students through outreach programs.

The team engages with South Bend community partners to extend STEM education to over 2,000 K-12 students annually. NDRT members create lesson plans, give hands-on demonstrations, and discuss basic engineering concepts with students, encouraging the next generation of innovators. The team is also launching a YouTube channel this year to increase our education efforts beyond the South Bend community.

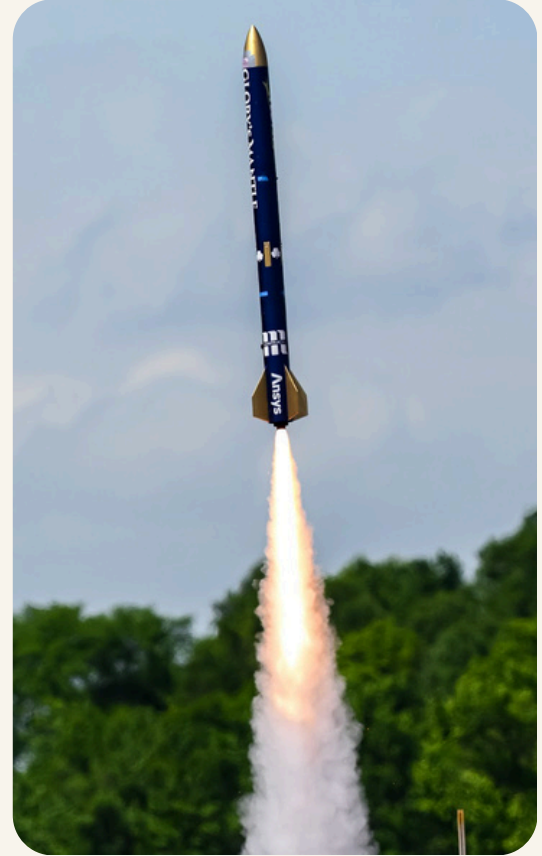


2026 - 2027 Goals



Vehicles // Drag Reduction

Vehicles is looking to improve the team's overall vehicle design and simulation accuracy throughout the year. The camera subsystem will be overhauled to reduce drag and film higher-quality footage. Low-friction paint solutions are also being evaluated to reduce aerodynamic drag further. Additionally, the squad is looking to incorporate more CFD analysis and is currently exploring new simulation software to increase prediction accuracy.



Payload // Education Enhancements

The Payload squad plans to develop a more robust curriculum to teach technical skills to younger students. This will give students a technical edge that they do not gain in a typical classroom setting. Subjects will include multidisciplinary topics, both within and outside of students' chosen majors.



2026 - 2027 Goals



ACS // Actuation Speed & CFD

To improve the apogee control algorithm and mechanical efficiency of the ACS, the squad is pushing for faster actuation times and utilizing advanced CFD simulations. The team is experimenting with different drag surfaces and actuation methods, such as the previously used spiral disk and rack-and-pinion designs. In addition, the team is working to resolve the disconnect between the scoring altimeter and ACS altimeter.

Electrical // PCB Improvements

The Electrical squad plans on utilizing more surface-mount components as opposed to through-hole components and breakout boards, allowing for smaller, higher-density PCBs. This improves electrical performance, reduces component costs, and enables the same PCB to be flown on both the subscale and fullscale launch vehicles. Putting the PCB on more flights creates more opportunities for data collection and increases the ability to iterate on the design.



2026 - 2027 Goals



Systems // Wind Tunnel Testing

Systems will create requirements for the subsystems and overall vehicle to ensure mission success and satisfy all NASA requirements. The squad will expand aerodynamic analysis by performing wind tunnel testing in the preliminary design phase, while specimen testing will be used to further validate structural Finite Element Models.



Recovery // Landing Improvements

In an effort to reduce damage to the launch vehicle and protect the payload mission, the recovery squad is designing a system that will prevent the parachutes from dragging the rocket across the launch field after landing. This system will reel in the main parachute's shock cords to lower the angle between the ground and the main canopy, decreasing its ability to move the body tubes.



Join Our Growing Community of Sponsors



ndrocketryteam.com

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