



Sponsorship Information

2025 - 2026

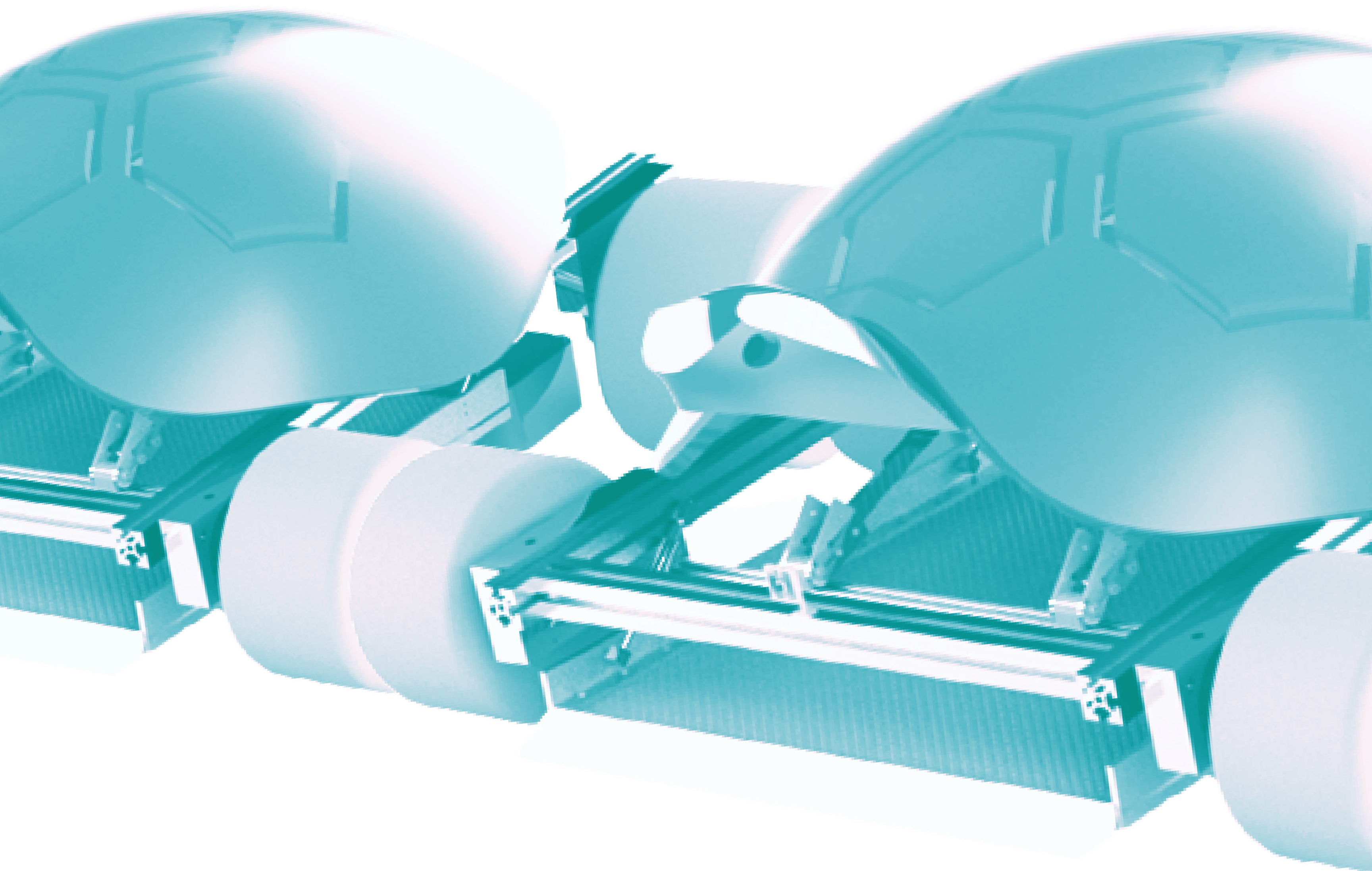




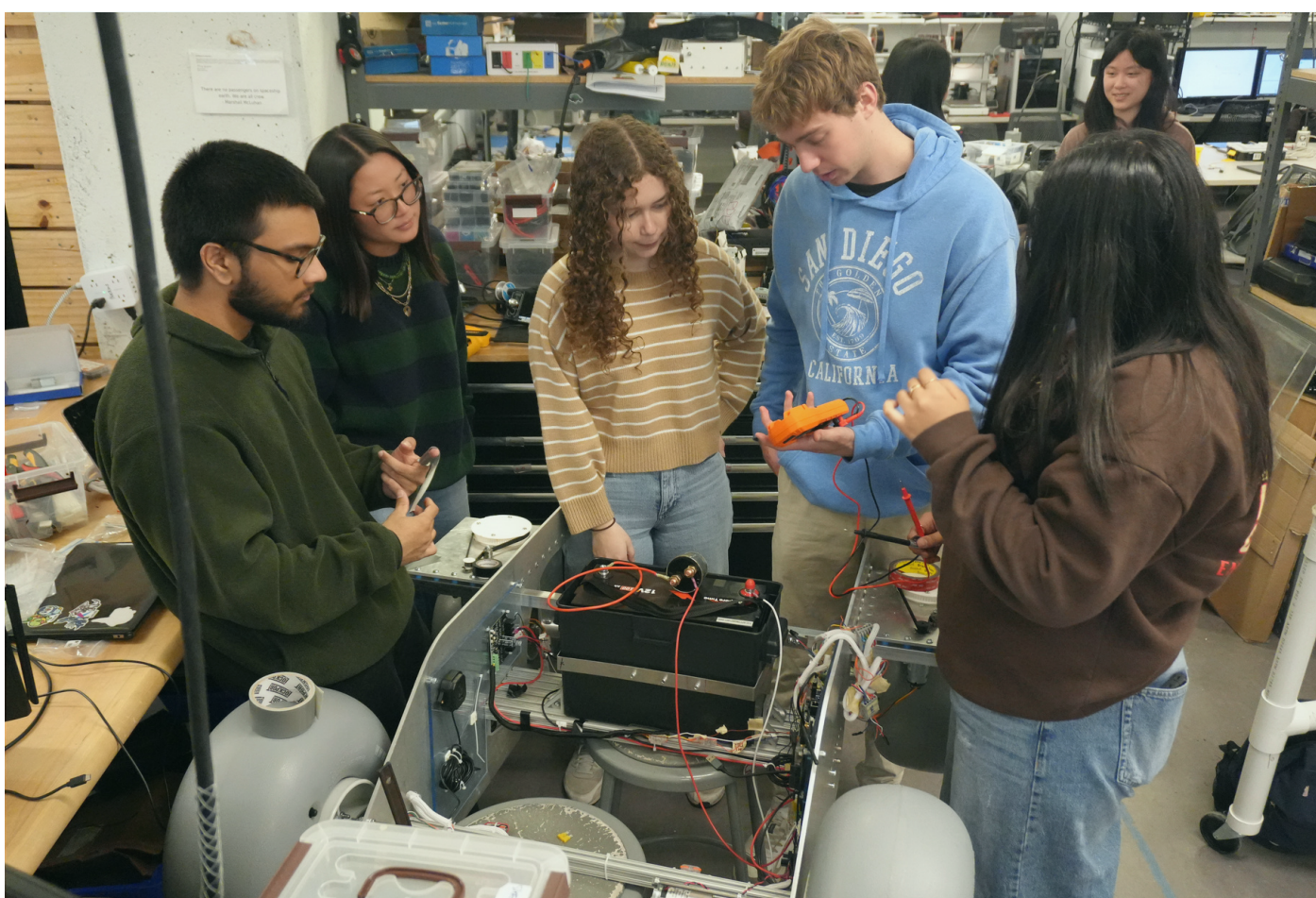
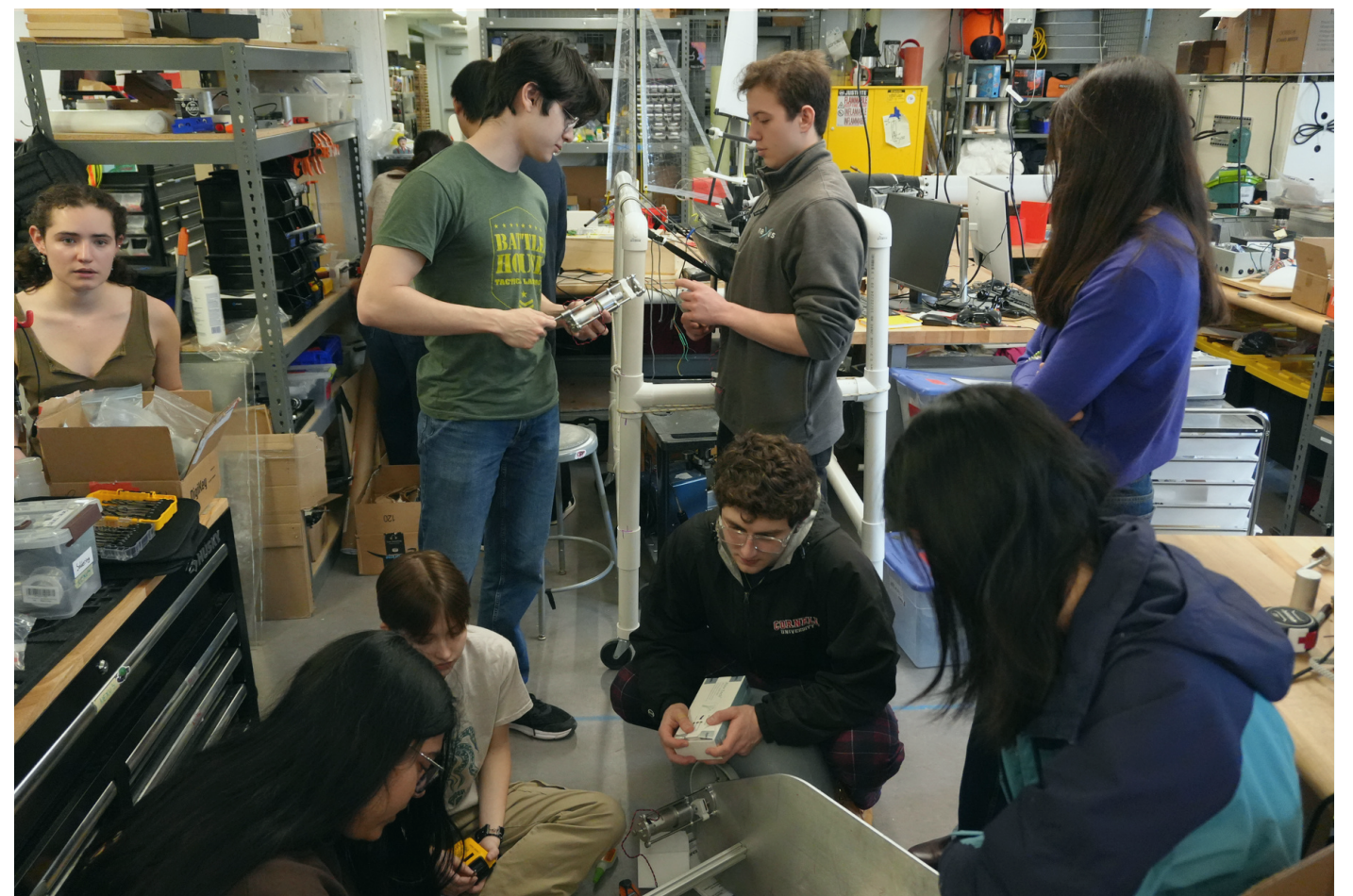
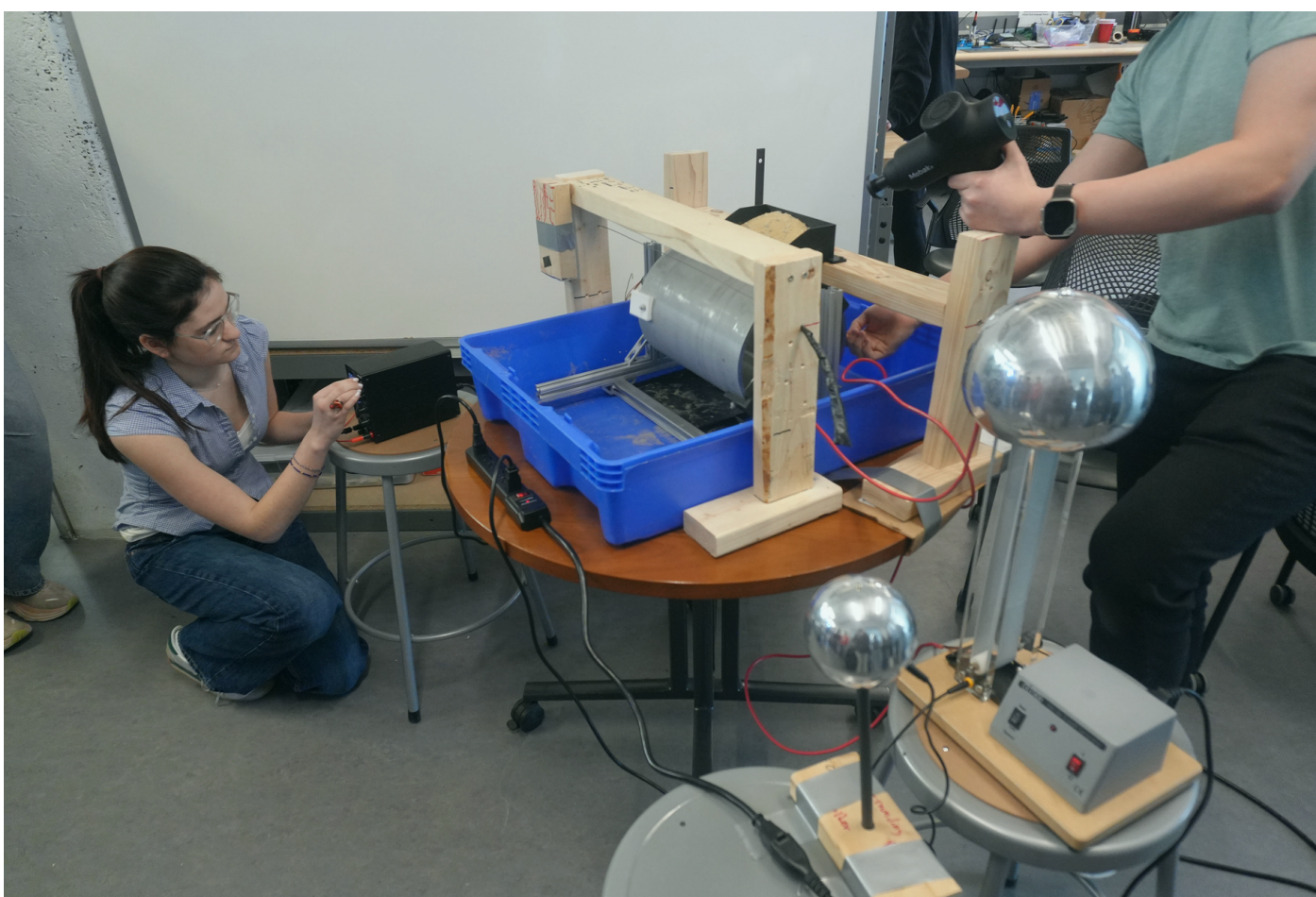
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ABOUT US

Cornell Nexus is a diverse team of environmentally-driven students **building an autonomous, solar-powered robot designed to remove microplastics from beach shores**. United by a passion for leveraging technology to tackle pressing environmental issues, we aim to transform academic knowledge into tangible, sustainable solutions that leave lasting impacts in our communities and beyond.

With members representing every college at Cornell, we think like researchers, build like engineers, and execute like entrepreneurs. As a team, we value ingenuity, collaboration, and persistence. Each of our four sub-teams contributes to every stage of the design process, working together to construct a cohesive and effective robot.



With the support of sponsors, we are not only **advancing future of sustainable technology but also empowering the next generation to make meaningful change**.

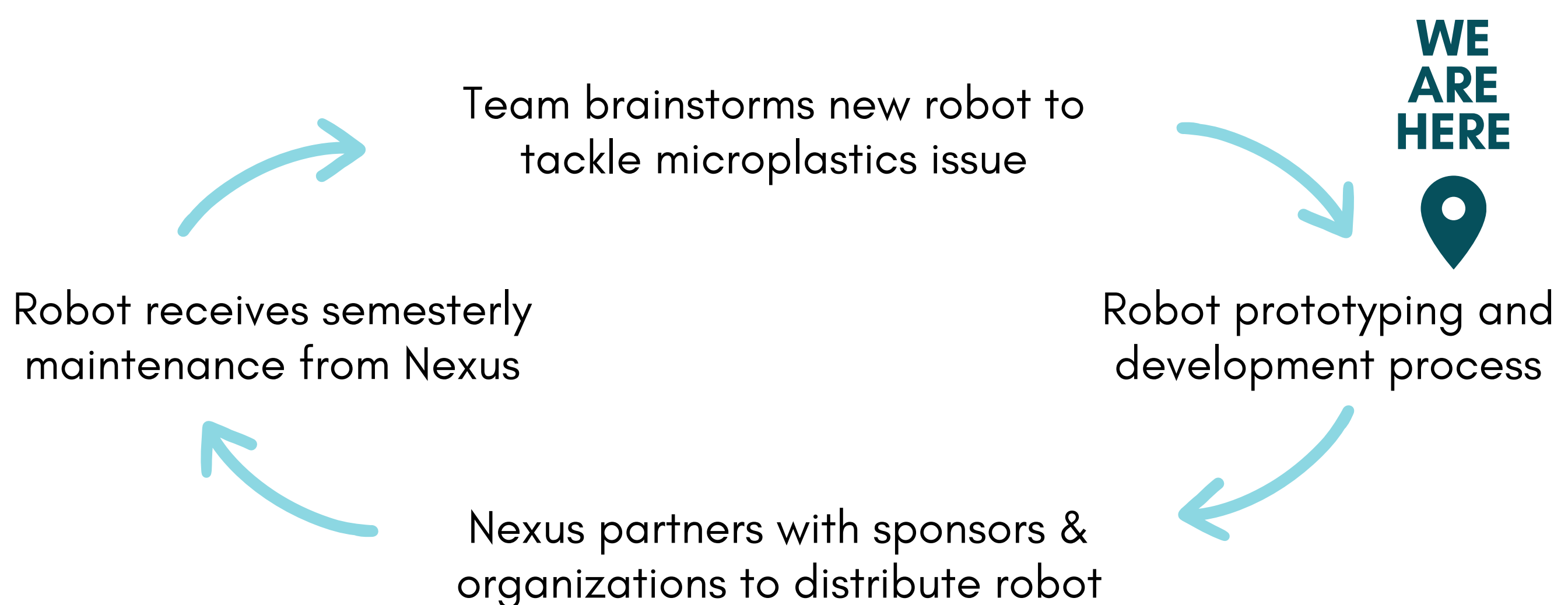
THE PLASTIC POLLUTION CRISIS

Our beaches are polluted—plastic bottles and pieces of trash are scattered everywhere. However, this is only the portion of pollution we can see. In reality, there are over **200 trillion pieces of microplastics** contaminating the sand, oceans, rivers, and even our drinking water. They mix with the sand, making them almost impossible to remove. These buried microplastic particles disrupt ecosystems and harm both wildlife and human life. The plastic pollution crisis is a deep and oftentimes invisible issue that is reshaping life as we know it.

OUR SOLUTION

Cornell Nexus' autonomous, solar-powered robot that will filter out microplastics from beach sand aims to provide an innovative solution. The autonomous robot utilizes various mechanical filtration stacks and adaptable energy sources to identify and remove microplastics in any condition. We are redefining the impact that Cornell students can make to solve the plastic pollution crisis.

Cornell Nexus' final goal is to have a fully-functioning autonomous robot that can be distributed to various organizations for beach clean-ups. This distribution will allow us to extend the impact of our technology at a quicker rate and larger scale.



MEET: HONU - THE TURTLE ROBOT

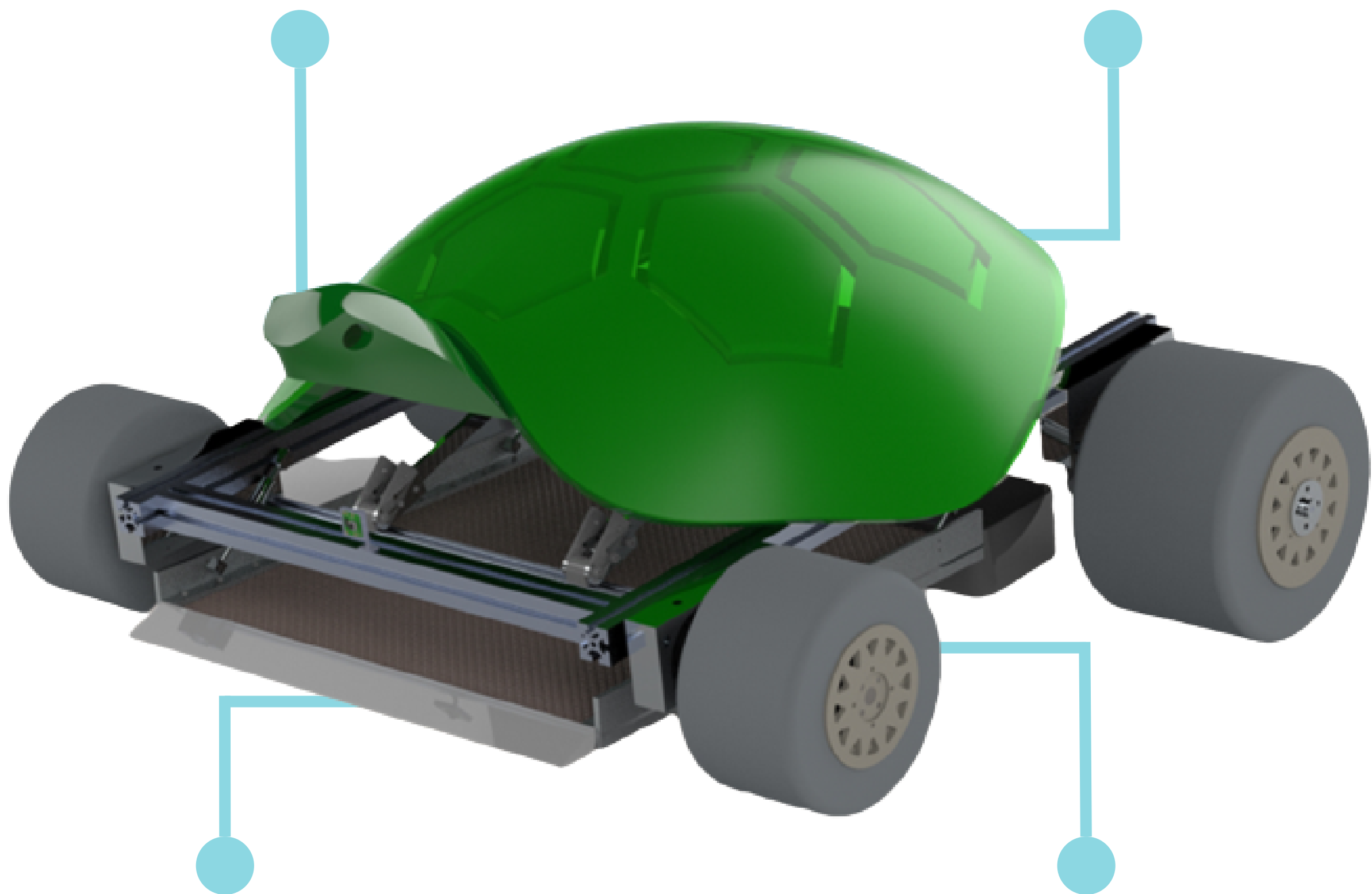
Autonomously Cleaning Microplastics from Beaches

Autonomous Movement

Our unique autonomous system and traversal algorithm detects beach obstacles and doesn't need to be controlled live, allowing for 24/7 operation

Computer Vision

Honu docks precisely into its base station to deposit plastics and recharge, using computer vision and front & back cameras to see 360°



Filtration Stack

Honu's novel filtration stack is specifically designed by our team to filter microplastics too small for other cleanup methods to identify

Powered Sustainably

The base station charges Honu's battery using power from solar panels and a wind turbine, ensuring the robot can work in any weather

OUR PROGRESS IN 2025

Our team consists of 57 members organized into four subteams with each team working on specialized aspects of the robot.

Software

The software subteam **develops the autonomous algorithm for our robot**, which determines how the robot will travel and interact with the environment.

PROGRESS: Members are working on **obstacle avoidance using computer vision and a PID controller algorithm** to improve movement precision.

Electrical

The electrical subteam **designs and implements the electrical system of our robot and base station** which includes sensor setups and communication systems.

PROGRESS: Members are **developing a charging system and port** to secure electrical connection. There is also extensive circuit testing so that the robot may be rewired for improved performance.

Mechanical

The mechanical subteam **develops an autonomous vehicle framework capable of operating on a beach setting**, including the microplastic filtration mechanism.

PROGRESS: Members are working to **mount the filtration system onto the rover, improve the longevity of the first prototype, and design a new chassis** based on the needs of each project.

Business

The business subteam **handles overall team logistics**, which includes managing finances, assisting in internal operations, and marketing the organization.

PROGRESS: Members are working on **gaining more recognition** for the team, **reaching out** to potential sponsors, and **competing** for awards.

WHY SUPPORT US?

Further Your Mission



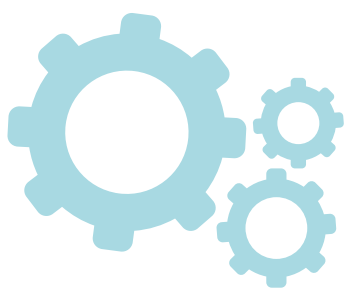
ESG creates value for companies as investors today consider how socially responsible the organization is and helps develop corporate culture. The core of our mission is precisely innovating for environmental sustainability.

On-Campus Publicity



We have a strong on-campus presence and are expanding our presence globally. As a sponsor, your company logo will be displayed on our materials such as merchandise, website, robot, and more.

Develop Talent



We provide training in essential engineering skills including CAD, circuit design, and computational programming. Our projects are also great applications of concepts from the classroom which develops talent fit to excel anywhere.



SPONSORSHIP OPPORTUNITIES

Thank you for helping support our mission!

\$50+

Turtle Package



Impact: Allows us to purchase workshop tools & Machine Shop training for new members

Benefits:

- Resume Book
- Logo on Nexus website

\$100+

Penguin Package



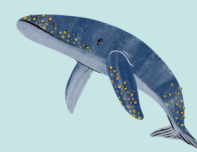
Impact: Allows us to purchase filtration mesh & solar panels for our charging base station

Benefits:

- All benefits of Turtle Package
- Small logo on robot

\$150+

Whale Package



Impact: Allows us to purchase high-tech tools such as RGB-D cameras and drivetrain motors

Benefits:

- All benefits of Penguin Package
- Medium logo on robot
- Company Info session at Cornell

\$1000+

Shark Package



Impact: Allows us to purchase advanced sensors, custom parts & design software

Benefits:

- All benefits of Whale Package
- Large logo on robot
- Additional small logo on robot
- Priority meeting with Nexus members

OUR SPONSORS



CONTACT US

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We also appreciate in-kind donations such as software packages (Solidworks, ANSYS), 3D printing services, CNC services, solar panels, battery, IR sensors, miscellaneous parts, etc.

Thank you for helping us clean up our planet!