CORNELL HYPERLOOP

SPONSORSHIP PACKET
2020-2021

THE TEAM

CONNECT WITH US

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Cornell Hyperloop

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ABOUT

Cornell Hyperloop is an engineering project team from Cornell University developing a prototype of revolutionary technology brought forward by Elon Musk.

45 **Undergraduates**

12 **Majors**

7 **Sub-Teams**

MISSION

The Hyperloop is the next step in high speed energy efficient travel. Our goal is to bring the concept to life and test our design at at the SpaceX Hyperloop Pod Competition.

SUB-TEAMS

Braking

The Braking team designs the magnetic and mechanical braking systems of the pod and integrates them. The team handles the careful manipulation of the Halbach arrays which make up the magnetic braking system by inducing eddy currents within the conductive rail.

Business Development

The Business team serves as a link between Hyperloop and the community. They are responsible for acquiring sponsorships from companies and marketing campaigns for the team while maintaining the team's social media websites.

Hardware

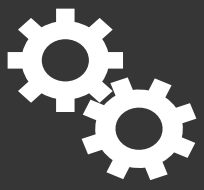
The Hardware team works with microcontrollers and physical electrical components to power the entire pod, collect information that the team has deemed valuable and important to know, and ensure the overall safety of the pod.

Propulsion

The Propulsion team designs the components of the pod's propulsion system, featuring an all-electric drivetrain. The aerodynamic reinforced carbon fiber shell enables the pod to achieve high travel velocities while successfully minimizing drag and guaranteeing structural integrity.

Software

The Software team is responsible for ensuring the pod functions safely, including communicating wirelessly between the BeagleBone black and the base station throughout its journey, developing the GUI that will convey and monitor pod data collected by the sensors, and providing means for manual control of the pod.



Suspension

The Suspension team is responsible for crafting the chassis the pod sits on and ensuring the pod is secure on the I-beam track. The team also oversees the layout of the internal components of the pod. The design includes a sturdy aluminum chassis frame to provide structural stability, as well as support for critical pod components.

Website Development

The WebDev team designs, updates, and maintains the team's website. They are responsible for creating a monthly newsletter that gives the latest updates on the pod to members of the community.

THE POD

- Uses a high speed electric drive system to propel itself forward
- Decelerates with magnetic brakes made of N52 Neodymium utilizing the concept of Eddy Effects
- Eddy-Current brakes manipulate electric current and magnetic fields to slow down
- Uses a passive lateral control system to maintain stability on track
- Minimizes aerodynamic drag using a sleek composite fuselage design
- Controlled via a variety of onboard sensors and microcontrollers which convey vital information to the base station

SPONSORSHIP

PIONEER

$250+

INNOVATOR

$500+

DISRUPTOR

$1000+

VISIONARY

$2000+

PIONEER

- Featured on Cornell Hyperloop Website
- Placement of logo on pod and gear

INNOVATOR

- A monthly newsletter with updates of our progress
- All Pioneer benefits apply

DISRUPTOR

- Special mention during competition
- Materials from competition weekend
- All Innovator benefits apply

VISIONARY

- Monthly calls to discuss team progress
- Additional benefits can be discussed
- All Disruptor benefits apply

BENEFITS

MARKETING
Opportunities to display your company's logo on out pod, website, and newsletters

NETWORKING
Direct access to connect with Cornell University leaders

TAX BENEFITS
Tax deductions for donating to Cornell Hyperloop, a non-profit organization

INNOVATION
A new, revolutionary mode of transportation as a direct result of your contributions