

CU HYPERLOOP

2024 - 2025

SPONSORSHIP PACKET



ABOUT US



WHO ARE WE?

CU Hyperloop Team Overview:

- 50 engineering and business students from the University of Colorado Boulder.
- Design and build a 2000 lbs, 12-foot-long, fully electric, autonomous tunnel boring machine (TBM) annually.
- Competing internationally for 7 years: first in SpaceX's Hyperloop Competition, now in the Not-a-Boring Competition.

Key Achievements:

- **2024:** 2nd in the world, Innovation Award for unique propulsion system.
- **2023:** Top team in North America, 3rd globally, Accuracy Award for autonomous navigation system.
- **2022:** Finalist, top 6 globally, continuous improvements.
- **2021:** First Not-a-Boring Competition, top 12 finalist.





OUR MISSION

Mission: Empowering the next generation of engineers through real-world challenges.

Our Vision:

Revolutionizing urban transportation with fully electric tunnel boring technology, reducing traffic congestion, and promoting sustainability.

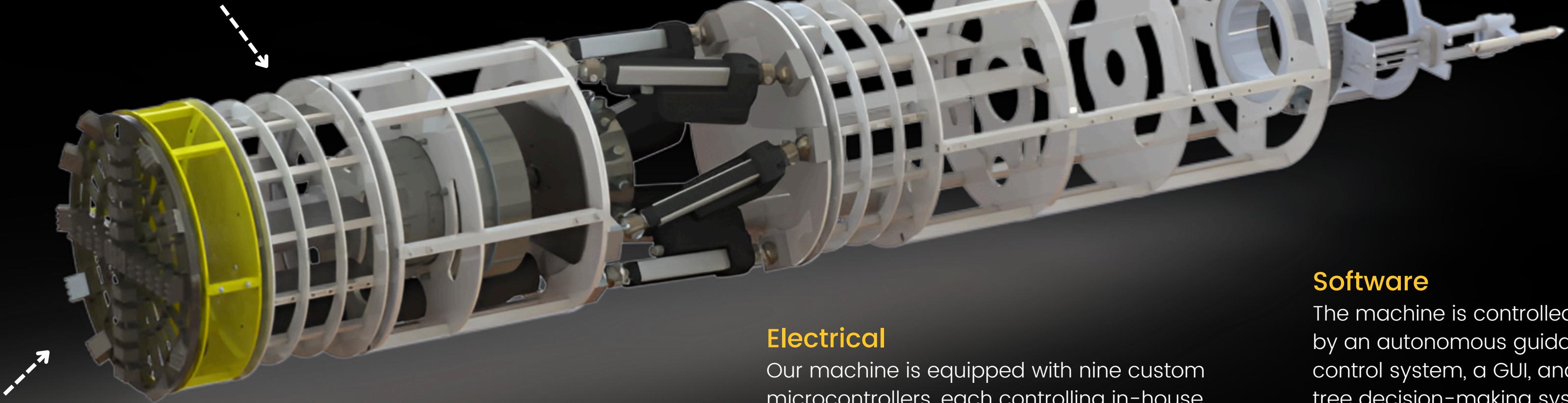
What We Achieve:

- Hands-on experience for students tackling complex engineering challenges.
- Inspire young talent to push engineering boundaries for a better future.
- Build a fully electric machine for reduced emissions and cleaner infrastructure.

OUR DESIGN

Grippers

The inflatable grippers anchor the front and back of the machine during hexapod operations. They consist of three bike tires covered in chain mail and Kevlar, providing a secure hold against the tunnel wall while pushing and retracting the machine.



Excavation

The cutter head is the key component that spins and cuts through the earth as we dig the tunnel. Operating at approximately 3 RPM, it can withstand up to 2500 Nm of torque. This robust performance is powered by a repurposed electric car motor.

Hexapod

The hexapod is the mechanism that propels our machine forward underground. This 6-axis Stewart platform pushes the cutting head forward with an impressive 60 kN of propulsion force, equivalent to the force needed to lift two cars!

Electrical

Our machine is equipped with nine custom microcontrollers, each controlling in-house designed PCBs, all powered by a 480VAC high-power distribution system that we built ourselves. Additionally, the machine is outfitted with 40 sensors, ensuring precise monitoring and control throughout the tunneling process.

Tunnel Support

Our tunnel support system includes a 3D printer that creates a 2-foot wide plastic tube, matching the tunnel's diameter, to reinforce the tunnel as we dig. This three-axis cylindrical robot prints at a rate of 12.2 cubic millimeters per second, which is equivalent to producing a Rubik's cube of plastic every 30 seconds. This innovative system ensures the stability and safety of the tunnel throughout the excavation process.

Software

The machine is controlled and monitored by an autonomous guidance navigation control system, a GUI, and a behavior tree decision-making system, all developed from scratch. We use ROS (Robot Operating System) to facilitate communication between all components, utilizing a microservice node architecture.

2024-2025 TIMELINE

DEVELOPMENT

Our journey begins with intensive research and development. This stage is dedicated to reimagining and refining our machine concept. We meticulously revise last year's design and craft innovative solutions for our new system. It is a blend of creativity and engineering excellence, where every idea is scrutinized and every detail perfected.

MANUFACTURING

With designs finalized, we move into the hands-on phase: manufacturing and integration. This is where the sparks fly – literally! Our team welds and constructs the new machine structure and assembles all circuit boards. This phase transforms sketches and plans into a tangible, powerful machine, embodying months of hard work and dedication.

COMPETITION

The culmination of our efforts is the competition. We embark on a road trip to Texas, home to The Boring Company headquarters, to compete in the Not-A-Boring Competition 2025. Our mission is to dig a 100ft tunnel in the shortest amount of time. This high-stakes environment tests our innovation, skill, and teamwork. Competing against the best in the world, we showcase our machine and our commitment to advancing tunneling technology.

August - September



March - August



September - December



January - March



March 21st



DESIGN REVIEW

Next, we move into the design review phase, where we invite sponsors and experts to evaluate our electrical and mechanical designs. This critical step allows your expertise and insights to significantly shape the final machine. It is an opportunity to witness cutting-edge designs and contribute to the future of tunneling technology. Your feedback ensures our designs are functional and optimized for peak performance.

TESTING

In this phase, we ensure that all sensors and design concepts perform as expected. Our testing process begins with individual subsystems and gradually progresses to full machine testing. The highlight of this phase is our annual test dig, an event where sponsors are invited to observe the machine in action. This event provides us with valuable real-world data to validate our design concepts under actual tunneling conditions.



WHAT WE PROVIDE

01 RECRUITMENT

You will gain direct recruitment opportunities with some of the brightest minds at CU Boulder. Sponsors will receive a curated list of resumes from our team members, giving you a head start in recruiting top talent for internships, co-ops, and full-time positions. Our alumni have gone on to work for industry leaders such as The Boring Company, Blue Origin, NASA JPL, Apple, and GE Propulsion, highlighting the caliber of talent within CU Hyperloop.

03 PROJECTS

CU Hyperloop offers your company the opportunity to collaborate on personalized projects and case studies tailored to your specific needs. This partnership allows us to address real-world challenges with innovative solutions, providing valuable insights and fostering a deeper connection between your brand and our talented team.

02 EXPOSURE

Significant exposure for your brand through our social media channels, prominent logo placement on our tunnel boring machine and website, and coverage in local, national, and international news. Your brand will be highlighted at Elon Musk's Not-a-Boring competition and events, ensuring widespread visibility and engagement.

04 EVENTS

You'll be invited to team events such as test digs, open houses, design reviews and Elon Musk's Not-a-Boring competition. These events provide a firsthand look at our innovative work, opportunities to network with industry professionals, and a chance to see your sponsorship in action.

SPONSORSHIP TIER LIST

Hyper|
Boulder

PLATINUM TIER

\$20,000 +

ALL LOWER TIERS PLUS:

- Company Description on Website
- Logo Prominently Featured on TBM
- Logo Prominently Featured on Team Apparel
- Annual Video Posts
- Promotion During All Media Interviews

SILVER TIER

\$5,000 - \$9,999

ALL LOWER TIERS PLUS:

- Access to Resume Book of Current Members
- Larger Logo on TBM
- Larger Logo on Back of Team Apparel
- Email List of All Current Team Members
- Biannual Social Media Posts
- Invitation to attend 2025 Not-A-Boring-Competition as a Guest

CREW TIER

< \$1,000

- Logo on Website Sponsors Section
- Tax Deductible Benefits

GOLDEN TIER

\$10,000 - \$19,999

ALL LOWER TIERS PLUS:

- Biannual Written Media Post on Website
- Large Logo on Back of Team Apparel
- Quarterly Social Media Posts
- Access to Team Members via Dedicated Recruiting Events
- Availability of Team Members for Presentations and Events
- Tour of Team Facilities

BRONZE TIER

\$1,000 - \$4,999

ALL LOWER TIERS PLUS:

- Logo on TBM
- Logo or Name on Back of Team Apparel
- Annual Social Media Post
- Invitation to CU Boulder Engineering Immersion



Thank You

We appreciate all of your support

We are incredibly grateful for your support and belief in our vision. Together, we can achieve remarkable milestones and pave the way for a more efficient and sustainable future.

LinkedIn

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