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Respondent

36

Paul Klapperich

03:43

Time to complete

Instructions:

Please adhere to the session word counts. Project leads must attend one SSC working group meeting post step 1 application submission. If you have any questions about the application process, please contact the SSC at Sustainability-Committee@illinois.edu.

1. Is This Project Student-Led? *

Yes

No

2. Have You Attended an SSC Working Group Meeting? If Not, Please Attend One and Present Your Project. Once Your Attendance Is Complete, Please Return to Complete Your Application.

<https://studentengagement.illinois.edu/student-sustainability/ssc/calendar/>

*

Yes

No

3. Please Select the Working Group You Attended. *

Energy + Transportation and Infrastructure working group.

Food & Waste + Land, Air, and Water working group.

Education and Justice working group.

4. Please Enter the Date of the Working Group You Attended: *

2/20/2024



5. Project Name: *

6. Total Funding Requested From the SSC. *

Please enter a number less than or equal to 10000

7. Project Lead Full Name: *

8. Project Lead University Email Address: *

9. Project Abstract: (In Less Than 100 words, Briefly Describe the Project.) *

10. Project Category: *

- Education & Justice
- Energy
- Food & Waste
- Land, Air & Water
- Transportation & Infrastructure

All Rolling Applications Require a Faculty/Staff Advisor.

Faculty/Staff Advisor

11. Full Name: *

12. Department: *

13. University Email Address: *

tfg@illinois.edu

14. Do You Have Additional Members? *

Yes

No

UIUC Financial Contact:

Financial Contact (Must be Full-Time UIUC Employee)

15. Full Name: *

Tom Golecki

16. Department: *

Mechanical Science and Engineering

17. University Email Address: *

tfg@illinois.edu

Project Questionnaire:

18. Please Attach Any Letters of Commitment or Support Here, Along With Any Other Supplemental Media That Will Support Your Application (Presentations, Pictures, Etc.)

19. Have You Spoken with UIUC's Facilities & Services Division for Approval for Your Project? *

Yes

No

N/A

20. Name of Facilities & Services Personnel Contacted *

21. Beyond SSC, Do You Have Sources Contributing Funding or Support (e.g. Staff Time, External Grants, etc.) To This Project? *

 Yes No

22. If Additional Funding Is Required, Do You Have a Plan for Obtaining Additional Funding Beyond SSC? (NOTE: SSC Cannot Guarantee Ongoing Financial Support) *

 Yes No

23. Has Your Project Applied for SSC Funding Previously? *

 Yes No24. **Project Timeline:**

(SSC Funding Agreements Remain Active for Two Years. List Your Project's Timeline and Major Milestones.) *

1st Phase Equipment Ordering - 3/20/24
Electrical Design Phase - 8/31/24
Mechanical Design Phase - 8/31/24
Machining and Assembly Phase - 12/31/2024
Testing and Troubleshooting Phase - 2/1/25
Designing Finalization Phase - 2/1/25
Race Preparation - 2/1/25
(all dates subject to change)

25. **Project Description:**

Describe Your Project in Detail.

What Does Your Project Hope to Accomplish?

What Are Your Project's Deliverables? *

As a new RSO on campus, our team aims to deliver a new and unique project to UIUC in the form of a robust electric race-ready motorcycle. With Collegiate motorcycle racing being in its infant stages, our team thought the SSC would be a great candidate to help pioneer this new type of collegiate engineering project. Within a 2-year window, we are aiming to design, build, and race our first electric motorcycle. We will race in the AHRMA (American Historical Racing Motorcycle Association's Formula Lightning) Varsity Challenge. This race is only open to zero-emission motorcycles. By participating in this race, we will aid in promoting zero-emission electric vehicles around the world. Furthermore, we are currently connecting with more teams across the nation such as Spark Electric Racing at The University of Michigan and teams in Canada and Europe to grow the electric motorcycle community. Our final deliverable will be a 300-volt electric motorcycle. It will have an estimated top speed of 150mph and push about 170 horsepower. The motorcycle will only be racing on a track, it is not meant for regular commuting and will not be driven on streets. Containing a 300-volt battery pack, it will allow the motorcycle to operate at a lower amperage, meaning the power output will be more efficient because less heat will be dissipated by the battery. With our project coming to completion, UIUC will be one of the first schools in the United States to design a motorcycle of this caliber, strengthening the environment-positive engineering community at our university.

26. Environmental Impact:

How Does Your Project Increase Environmental Stewardship at the UIUC?
If Applicable, What Is the Carbon, Water, Waste, and/or Energy Savings? *

Ghost is a zero-emissions team. We will always choose the lowest possible waste or pollution option. We are raising awareness to EV technology and development to promote alternatives to gasoline internal combustion engines. The students that participate in Ghost will carry on the knowledge about EV technology, broadening our strides towards a greener planet.

27. iCAP Objective Correspondence:

Does Your Project Aim to Advance One Or More Of The Illinois Climate Action Plan's (iCAP) Objectives? If So, How?

A full list can be found here: <https://icap.sustainability.illinois.edu/objectives>

Ghost aims to advance the energy, transportation, and education themes of the iCAP objectives. Electricity powered vehicles are becoming more popular forms of transportation. With the new technology, we want to help smooth any difficulties that future engineers might encounter with electric vehicles and improve the EV space in general. Our project aims to educate UIUC students and other students worldwide about the EV space and the impact that green transportation can have on the transportation industry and the planet. Our zero-emissions technology is also promoting zero-emissions around the world. Because project based learning is so powerful, the real world experience that students will get by participating in Ghost will be very impactful.

28. Student Impact:

How Will This Project Benefit Students?
How Will Students Be Involved with This Project?
What Educational Components Are in Your Project?
How Many Students Will Be Directly Impacted by This Project?
How Many Students Will Be Indirectly Impacted by This Project?
*

Students will be directly benefitted by Ghost Electric Motorcycles if they choose to participate in the club. Students are involved in every process of the club, such as design, manufacturing, race preparation, recruitment, software, outreach, and business practices. They will learn crucial engineering process skills, designing for manufacturing, FEM simulation software, control systems coding, professional networking skills, and more. Another direct benefit of participating in the club is companies will be more inclined to hire someone with real world project experience, especially companies hiring in the automotive industry. We plan on using technologies, softwares, and systems that large scale automotive and electric automotive companies use in the real world. Our team will be accepting students of all majors and backgrounds. Nobody will be refused from the club as long as they follow federal and university rules. An estimated 100 students per year will be directly impacted by this project, and an estimated 6000 students will be indirectly impacted by our club.

29. Please Complete the Attached Budget File:

Please Be Very Descriptive When Filling Out the Budget and Timeline Excel Sheet. Then Submit It Below.

<https://studentengagement.illinois.edu/student-sustainability/ssc/docs/SSC-Supplemental-Budget-Timeline.xlsx>

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 SSC Budget & Timeline Form (Final). Paul Klapperich.xlsx