2022 Report to The United Engineering Foundation

EPICS IN IEEE ENVIRONMENTAL COMPETITION EXECUTIVE SUMMARY

The EPICS in IEEE Environmental Competition successfully selected, launched, and supported ten environmental-focused projects from eight different US-based institutions. Launching this competition in the winter of 2022 was critical as students were eager to get back to hands-on learning outside their classroom after the COVID-19 pandemic-mandated hiatus. The students involved in this competition are incredibly passionate about using their technical skills to mitigate and address the impact of climate change.

From a litter-collecting robot for a local lake to nitrogen-sensing drones for understanding air quality, these projects have provided hands-on learning and community engagement experiences crucial for university students' development of professional skills. Over a dozen IEEE volunteers are working with the eight universities and 132 university students to complete these environmentally focused projects. Once the projects are complete and deployed in the community, the estimated number of people impacted by all ten projects will be over 500,000.

EPICS in IEEE was thrilled to take on the competition in partnership with the United Engineering Foundation. Although the projects are not fully complete and deployed at this time, there has been significant learning and engagement from the student teams. The community partners are pleased with the progress being made as they collaborate with the students to deploy their prototypes.

EPICS IN IEEE Environmental Competition

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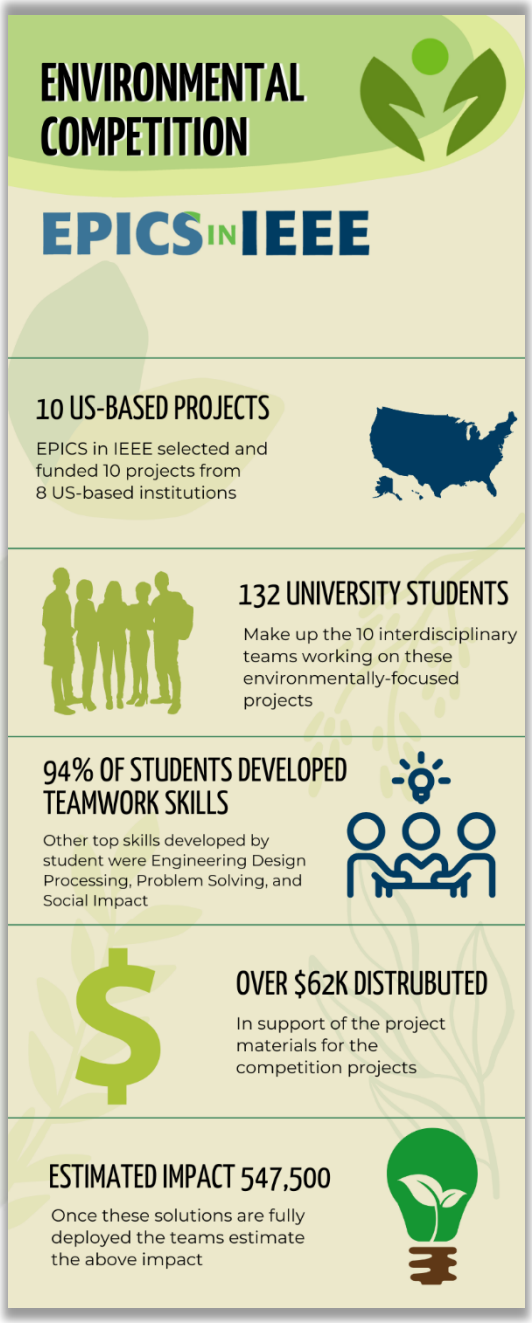
Some teams are working through an engineering class curriculum or a senior design project while others are utilizing their IEEE clubs on campus to implement these projects. With a shared mission of combating climate change and making a local impact, these students have shown their passion and perseverance through these projects. Additionally, the students have come away with critical knowledge to help them succeed in their future engineering careers. Perhaps the most valuable learning experience was the opportunity to work across multidisciplinary teams and engage in practical activities to apply what is being taught inside the classroom. According to the student survey, 93.6% of the respondents felt that their EPICS in IEEE project contributed to their development of teamwork skills. The students partnered with non-profit organizations and learned how to develop technology that is making real-world, tangible impacts.



The EPICS in IEEE committee has been supporting these teams throughout the year through quarterly checks as well as mentor assignments. This has ensured that the project teams felt supported and given the tools to successfully launch their projects. In our original call for proposals, the total amount awarded in project grants was **$57,761.20**. Three of the ten projects received phase two funding for a total of **$4,705.00**. Resulting in a total of **$62,466.20** given out in funding.

The EPICS in IEEE Environmental Competition has been notably fulfilling—serving as one way to work towards the IEEE mission of fostering technological innovation and excellence for the benefit of humanity. Without the support of both the United Engineering Foundation and the IEEE Foundation, the committee would not have been able to support so many impactful projects.

[Link to all Environmental Competition Projects]

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