

Project TwoPager | EuroTeQathon III

Our third EuroTeQathon will be hosted in Prague (CTU) from Saturday June 10th until Monday June 12th 2023. In preparation of these events every (selected) Collider project is asked to submit a TwoPager on their project according to the locally communicated deadline and procedure. This document will be used by the jury to complement the final presentation on Monday and have a good overview of all the different projects

PROJECT DETAILS

Challenge Collaborator: ABS

Team name: EcoAutoParts (EPA - short for “EcoPiezasAuto”(pronounced pee-AY-sahs EH-koh OW-toh) in Spanish or “ÉcoPiècesAuto”(pronounced eh-koh pee-EHS OW-toh) in French)



Team slogan: Sustainable Auto Solutions

Team members (full name | study program | university)

Name	Study Program	University
Jainik Mehta	Bachelor of science in Mechanical Engineering	Technion - Israel Institute of Technology
Kristians Kreinbergs	Master Embedded Systems	TU/e, the Netherlands
Ali Kızıldağ	Bachelor Industrial Engineering & Innovation Sciences	TU/e, the Netherlands
Aryan Kumar	Master Automotive Technology	TU/e, the Netherlands

What is the target problem for your project (in one sentence)?

How to protect cars from the paint dust particles using sustainable and cost-effective materials.

How do you solve it (in max. three sentences)?

We are using canvas drop cloth as the main material combined to 4 sections that are openable with zippers - Front bumper, rear bumper and doors on both sides. Such an approach will allow re-use of the cover more than once and it will be usable for the most common problem areas.

Potential for impact

Using plastic foil as the cover is common practice around the globe, our main challenge is to reduce plastic waste in the car repair workshops. By reducing the plastic waste generated, our project contributes to an environmentally sustainable future because of reduction of the CO2 generated during its production and also helping the fight against pollution. Furthermore, we strive to increase the morale of car repair workshop employees in addition to the satisfaction of their customers by providing more sustainable service. Moreover, having a reusable cover, can highly reduce the cost of materials used in the workshop.



Innovation

Currently, there are no reusable covers in the market that are suitable for painting processes. Nevertheless, we are developing a solution that is both Environmentally friendly and cost-effective compared to existing one time use alternatives in the market.

Feasibility

The alternative of reusing the plastic cover is totally self-sustainable in the sense that the company will use the same cover multiple times without needing any external contribution. The solution is technologically feasible due to use of existing materials and practices taken from our everyday life. The next step in the process is to collaborate with our partner ABS to test out material properties and behavior in the real setting.

Inclusivity

The stakeholders are involved in the process of solution development. We are looking into partnerships with high quality material suppliers and manufacturers to ensure that we can acquire the desired materials. In addition, we are collaborating with our challenge owner ABS to gather the necessary data about cars and also the painting process in general. In the development of the solution the engineering perspective in terms of the material selection and usage, and environmental perspective in terms of effects on nature is taken into account.