

Press Release



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Design Innovation in Plastics: 2020 winner announced

Pedal power proves perfect for winning London South Bank University student

The outstanding winner of the 2020 Design Innovation in Plastics (DIP) competition has attempted to tackle one of the most pressing problems of the modern urban age.

Kristen Tapping, a third year product design student from London South Bank University, created a bicycle wheel with pollution filters, that uses movement to actively purify the air. Her *Rolloe – Roll off Emissions* wheel operates in the busiest, most polluted roadways, requiring zero energy to function, except for pedal power from the cyclist. Her concept is targeted at large scale shared bicycle schemes, such as those used in London, rewarding consumers based on distance travelled.

Organised by the Institute of Materials, Minerals and Mining and the Worshipful Company of Horners, and industry headline sponsored by high tech polymer company, Covestro, DIP challenged students to come up with a brand new product on the theme of urban living, which would enhance life in a city environment, for use in flats or whilst commuting.

Kristen beat an original entry of more than 100 students from all over the UK and Ireland to win the top prize of a trophy and £1,000; a trip to Leverkusen, Germany, to visit Covestro; a placement with sponsor PDD Innovation and an invitation to the Lord Mayor's Banquet as a guest of the Worshipful Company of Horners.

The judging panel felt Kristen's product, with further support and development, could be a viable prospect for the market.

Chairman of judges, Richard Brown, said: "The amount of background investigation carried out by Kristen to support the design feasibility of this product was outstanding and enabled this to be a very worthy winner. She tackled the brief extremely well and to a high level, addressing the points the judges raised at the preliminary judging session."

Kristen, for whom this was a second attempt at the competition, said: "Cycling through London, I was able to see and smell the pollution coming from tyres and tailpipes. I thought - why not use the movement from vehicles to filter the air? If it seems the product has a future, I may try to develop it to a commercial level."

In second place, Coventry University's, Matthew Foord, "met the brief to the letter" with his Transforming Urban Trolley, whilst in third, Zihao Zhang (Brunel University), used the "utilitarian" plastic bottle to create a low cost piece of fitness equipment which can be used anywhere, if a gymnasium is not available.

Each of the six finalists receives a short industry placement with one of the supporting competition sponsors: Brightworks, Innovate Product Design, PDD and RJG Technologies.

Uniquely, this year's competition took place thanks to the wizardry of modern technology, with preliminary and final judging taking place through video conferencing, and the final award being announced in an 'as live' broadcast online.

DIP chairman, Martin Sixsmith, said: "Our committee has worked really hard to make this competition happen through the period of the coronavirus lockdown, and I must pay tribute to their dedication and creativity. Because of this, the number of designs submitted was pretty much the same as in any 'normal' year.

“In retrospect, a lot of positives have emerged from this year’s challenges, not least that we have found new ways of working, many aspects of which are sustainable, and which we will adopt permanently in future.”

The full results are:

First - Kristen Tapping, third year Product Design, London South Bank University

Rolloe - Roll off Emissions – bicycle wheel caps that actively purify the air, making for a cleaner ride for the user

Second - Matthew Foord – third year, Product Design, Coventry University

Transforming Urban Trolley, a multi-use alternative to single-use carrier bags, which can be used as a brief case, shopping trolley or suitcase, on trains and buses or open city streets.

Third - Zihao Zhang – MSc Product Design, Brunel University

FREEFITNESS – A sustainable fitness dumbbell, which uses plastic bottles, providing the user with multiple options for doing an upper body workout.

Highly commended

Ellen Dack – third year Product Design, Technological University Dublin

Complanter – an easy to use composting unit ideal for people living in confined spaces and which also functions as a planter for herbs.

Hannah Dempsey – third year Product Design, Technological University Dublin

Workspace – a personal adjustable ‘desk’ for students, which promotes better posture while being capable of being used in a variety of confined spaces.

Matthew Shaw – third year Product Design, De Montfort University

Andas One – a smart device, which measures air quality, and used in conjunction with an app, helps the user to plan the cleanest and most direct route to walk, in an urban area.

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About Covestro:

With 2019 sales of EUR 12.4 billion, Covestro is among the world's largest polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative solutions for products used in many areas of daily life. The main segments served are the automotive, construction, wood processing and furniture, and electrical and electronics industries. Other sectors include sports and leisure, cosmetics, health and the chemical industry itself. Covestro has 30 production sites worldwide and employs approximately 17,200 people (calculated as full-time equivalents) at the end of 2019.

This press release is available for download from the Covestro press server at www.covestro.com. Photos are available there for download as well. Please acknowledge the source of any pictures used.

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About Design Innovation in Plastics:

Established in 1985, **Design Innovation in Plastics** is the longest running student plastics design award in Europe. For more information visit www.designinnovationplastics.org

The Institute of Materials, Minerals and Mining (IOM3) is a major UK engineering institution and is the professional body for the advancement of materials, minerals and mining to governments, industry, academia, the public and the professions. For more information visit www.iom3.org

The Worshipful Company of Horners is one of the oldest livery companies in the City of London and was formed to regulate the horn-working trade. In 1943 it adopted its modern equivalent, the plastics industry. For more information visit www.horners.org.uk

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