

Fall in Love with the Future through Circular Design 循环设计 致你所爱的未来







MANCHESTER SCHOOL OF ART

Making Matters, China Design Challenge

Fall in love with the future through circular design

Since Last year, in partnership with IM Motors, the British Council have been working in collaboration with Manchester Metropolitan University School of Arts in the UK and Young Green Tech in China to develop the Making Matters China Design Challenge, seeking to unlock the creative talent of future generations of designers through a student focused initiative.

British Council's global programme, Making Matters, aims to foster a global dialogue around circular design. The multi-disciplinary programme explores how principles of the circular economy can be a catalyst for creativity, collaboration and regenerative thinking within architecture, design and fashion practice. We believe that circular design is enabling designers to develop new skills and creative thinking to address global challenges and climate change through design, and with new tools, design thinking, resources, and perspectives, to be able to sustain our planet and resources.

The Challenge Winners and their projects

Grand Champion for Individual Entry

Sustainable exploration programme for the whole process of aluminium metal production

By Tu Junjie from Central Academy of Fine Arts



Infographic: Yuanmo XIE, MOMOmindmap Studio

The project focuses on red mud, a toxic waste of aluminum refining which is a solid alkaline waste high in sodium and difficult to repurpose. By participating throughout the aluminum production process, the project aims to recycle the industrial waste and repurpose it from a material of negative value to raw material used for producing the likes of red mud chalk and red mud pigment for economic gains. To introduce new usages in different fields to deliver the idea of sustainability, for example, collaborations with artists can give voice to how pioneering and essential it is to repurpose red mud in terms of environmental protection; joining hands with top international brands (e.g., Coca-Cola) can help promote the knowledge of red mud among the public; and public service announcements about red mud can inform the public about how it comes into being and how it becomes an environmental hazard. Repurposing red mud will not only save hundreds of millions of yuan of stockpiling cost every year, but also generate certain economic benefits. Meanwhile, replacing the traditional raw material with red mud can also reduce the use of natural resources in manufacturing chalk and pigment.

Comments from the judges

'Well explained premise to project, using Coke-can to explain lifecycle and waste created from production. Really interesting to see experiments with the red mud, this practical testing was tangible, creating a smallscale product with this difficult red mud waste. It is evident that if this bi-product/waste product can be reused then significant cost can be saved the overall impact on the environment reduced.' - Sarah Moriarty

'Excellent thought through project showing great critical thinking. An ability to zero in on a specific problem and solution but answered questions well about how this could be applied best' - Lucy Siegle

Grand Champion for Team Entry

Research on sustainable applicability of circular design on the recycle of lens thermosetting materials in optometry industry



By Gao Jie, Duan Limin from Beijing Institute of Fashion Technology

Infographic: Yuanmo XIE, MOMOmindmap Studio

In recent years, there has been an increasing demand for better quality eyeglasses, and as such the consumption of thermoset materials in lens production continues to grow. However, most thermoset materials are not degradable and the initial recycling cost is rather high. The project looks into the environmental pollution issue in the optical products industry as well as the rising rate of myopia among children and teens. It introduces customised, dismantable modules for eyeglasses production and a system for efficient recycling of the waste. The recycled waste will be shredded and used as consumables for 3D printing where measurement and printing will achieve the accuracy level matching consumers' individual facial data. On the one hand, this meets the demands of young customers on wearing comfortable bespoke eyeglasses, and on the other hand it reduces impact on the environment arisen from high frequency of product replacement, not to mention it would also become an enhanced service provided by retailers to improve customer stickiness. In addition, the project has a user incentive mechanism in place that embeds emotional motivation to strengthen stakeholders' repeated and active engagement.

Comments from the judges

'The students first investigated the rapid obsolescence of lenses and frames and the difficulty of disposing of them, and in their research, they discovered the large amount of waste generated during the lens grinding process and the associated water pollution. The final solution not only considered the disposal of old lenses and frames, but also reached the source of the problem, taking into account the design of the glasses, the choice of materials, the user's experience and the most fundamental aspect of vision protection The new way of thinking about the problem - eliminating waste and pollution at the source - opens up new breakthroughs for design practitioners to create more systematic change.' - Fan Chuan

'Given the growing domestic market for lens consumption in China, this project has certain commercial potential. Progressing in the Challenge, it was clear that the participants have gradually discovered the value of circular design. The final presentation has shown us a very complete and in-depth research of the lenses recycling and reusing, which shows the strong potential for practice.' – Feng Yi'an

Merit Award for Individual Entry

POO- BANK

By Liu Ruitong from Renmin University of China



Infographic: Yuanmo XIE, MOMOmindmap Studio

As living standards in China continue to improve over the years, pet population is also on the rise. It is not uncommon to see pet dogs defecate in public, creating nuisance and risk for the living environment and public health. The mission of the project is to build up a recycling system of pet waste that encourages dog keepers to pick up and dispose dog poop properly. The system incorporates the idea of circular design where pet dog poop can be converted into fertilizer via its built-in machine. On top of that, the system's intelligent interactive device works to connect with users who will be awarded when they pick up and dispose dog poop into the machine as a kind of "psychological stimulation". The idea is to link together pet waste disposal, fertilizer conversion, and redeeming rewards. The project hopes to create more buzz among young users. By using the machine to collect pet waste in person, and then redeeming rewards on smart devices, the project motivates users to become part of the process of repurposing pet waste while promoting dog keeping in a scientific, responsible, and green way, offering a path towards a regenerative and resilient future. The goal is to add value to the ecosystem within the community by reducing the amount of pet waste.

'Given the number of dogs and the environmental impact this could have huge resonance I particularly liked the detail and the vibrancy of the presentation' - Lucy Siegle

'Confident and professional presentation. The link of circuolar economy and adding value to waste is extremely clear and pertinent in China and the UK! Strong graphics which clearly explained design thinking and process. CAD images at the end of presentation commiunicate Poo Bank well.' - Sarah

Merit Award for Team Entry

Extreme-Ride

By Li Jiaxiang, Mo Wanying, Shen Yuhong from Tsinghua University



Infographic: Yuanmo XIE, MOMOmindmap Studio

Extreme Ride is an EV model with a SUV-camping setup designed for the "urban nomads" belonging to the Generation Z. The model merges the boundary of urban SUV and traditional off-road vehicle with a concept of "new hard-core" off-road vehicle. The car is powered by clean energy and is a champion of ideas of sustainable development and circular design. Car owners can customise the space created by the car as they wish according to different settings. The innovative design of body style of the car is rich in futuristic elements, incorporating bold use of new materials, technology, and techniques for the utmost level of reuse rate to transform the car in to the owner's home away from home. The project also includes design of sustainable wrap-around products, such as the seats, portable boxes, and an app called "Arctic Circle" that brings together like-minded car enthusiasts in an online communities to share sustainable lifestyles.

'An integrated vehicle design process, and the output looks amazing. In this project, I can see a trend for future vehicle - to become a more organic, multifunctional living space. This kind of a 'second living room', would be able to lead the young urban population to participate in a more circular living style.' – Feng Yi'an

'The project is clearly thought out and passionate, with a wonderful product.' - Wang Xi

Highly Commended

Campus Waste Recycling Incentive Platform for Universities

By Zhang Man from South China University of Technology



Infographic: Yuanmo XIE, MOMOmindmap Studio

Underpinned by the idea that "recycling is not the endgame; a more sustainable future is", the project is aspired to create a green trend on university campus through university-industry collaboration so as to increase university students' engagement in waste classification on campus and to achieve effective recycling and repurposing of waste. Students can use the app designed for this project to sort and recycle waste, and in exchange earn points to redeem for trendy consumer products. In this way, the project increases motivations for students to get involved in waste recycling, and provides opportunities to get cultural and creative items made of recycled materials. By doing so, app users will be incentivised to protect the environment, and at the same time have a first hand experience of efforts from the industry and be part of consumer co-creation, which itself serves as a valuable opportunity of brand recognition.

'The scheme enables consumers to see tangible benefits quickly from their change of recycling behaviour and recognised that environment alone not a sufficient driver for change of student behaviour.' - Sarah Moriarty

Commended

Life in Wax

By Liu Ziyi, Zhangting, Wang Qin from Shandong University of Finance and Economics, and Gao Zixiang from the University of Glasgow, UK



Infographic: Yuanmo XIE, MOMOmindmap Studio

Wax production generates a large number of waste gas, residual waste, and water pollution. Even after standard treatment, it still causes some pollution to the environment and human body. With this in mind, the project sets out to tackle pollution and waste from expired cosmetics. By recycling wax from expired beauty care products possessed by consumers and manufacturers to make scented candles, the project is designed to recycle and repurpose the waste and to raise the public awareness of the recyclability of cosmetics. Through wax recycling, the project designer aims to connect environmentalists and consumers, leverage influence of the Internet to join up different communities through small-scale practice and publicity, and analyse data on environmental protection efforts to improve the practice, for the ultimate goal of safeguarding our environment. The project also sets eyes to develop a more advanced wax extraction technique in the future, obtain relevant patents and intellectual property rights for commercialisation, and collaborate with an increasing number of partners nationwide to promote the concept of wax recycling.

'A form of extended producer responsibility that I think could work really well across territories. I think this is a great programme that has looked into most aspects.' - Lucy Siegle

Be the Master of Your Own Memory

By Jin Hongyi from Tsinghua University



Infographic: Yuanmo XIE, MOMOmindmap Studio

In light of today's information-saturated age, the project hopes to demonstrate impact of the information world on the environment by redesigning data storage mechanisms, in order to reduce its energy consumption and to give prominence to memories worth cherishing. Users add shortcuts on their mobile devices such as mobile phones, allowing them to choose the duration of data storage at their choice easily so that unimportant data will be deleted automatically in due time to make space for new data storage. In addition, from a user experience perspective, users will benefit from this project to find useful data faster and become the master of their own memories.

Comments from the judges

'The participant cleverly captured a linear growth that would be easily overlooked - our demand for storage capacity and virtual cloud space. This demand may seem invisible, but it is constantly stimulating the upgrading of terminal devices and infrastructure, and the consumption of energy and land resources; it can even have a negative impact on our psychological and mental health. I hope that the participant will be able to build on the current exploration in this direction and move further towards concrete technical solutions.' – Fan Chuan

The Prizes

Grand Champion	Cash Award RMB 24000 and Framed certificate made from sustainable material
Merit Award	Cash Award RMB 12000 and Framed certificate made from sustainable material
Highly Commended	Framed certificate made from sustainable material
Commended	Letter of Commendation

Apart from the above-mentioned awards, IM Motors also run a social media campaign, that the IM community members voted for their favorite project. The **POO- BANK** was elected as the Choice of the IM Community, and IM motors will offer the Thomas Heatherwick designed Spun Chair as the special prize.

Criteria

Social Impact	Applicants should demonstrate their sense of social responsibility and concern for global challenges, with the ambition to make positive change through circu- lar design. This is key criterion which sits within both stages of the challenge and should be the conceptual foundation for the challenge proposals being de- veloped.
Communication	Applicants should be able to express their ideas, present their project, and communicate with mentors and judges in an articulate manner. Good storytell- ing skill to communicate with wider public will be a plus. This is key criterion which sits within both stages of the challenge. In first part we are seeking a clear communication of the concern or question they are addressing. In the second it is about the articulation of the proposal and its purpose as circular design.
Critical Thinking	Applicants should demonstrate their willingness to learn, rethink and reflect, and strong capability to think critically and logically. participants can include examples of how their critical thinking has been developed by including for ex- ample, contrasting references and range of resources and mindsets/perspec- tives/concerns which have been considered. This criterion will come into the second part of challenge.
Innovation	Applicants should demonstrate their capability to develop innovative product, provide creative solution, or conduct meaningful research, with a circular design practice. This criterion will come into the second part of challenge.
Achievement and improvement	The Applicants should demonstrate visible progress made through newly ac- quired knowledge and skills, deepen understanding, perception change and practical application as development. This criterion will come into the second part of challenge.