

the Great Competition

A national design and engineering challenge for undergraduates by the Design Museum supported by the Royal Commission for the Exhibition of 1851

November 2018 – May 2019

Challenge

Develop and design a new product, service, system or digital tool that enables or supports sustainable manufacturing and production.

Award

The award for the winner/s is £3000. The judging panel may decide on more than one winner and will allocate the award accordingly.

Context

The rate at which humans are consuming the planet's resources presents urgent problems. Last year 29.4 million hectares of forest were cut down to create new homes, farmland and products, whilst over 92 million barrels of oil were extracted each day. If populations increase at predicted rates, by 2050 we will be consuming 3 planets worth of resources each year (source UN).

Traditional forms of industrial manufacturing have been major contributors to this and have had un-precedented effects on the planet. They have furthered climate change, created expanses of waste, polluted environments and destroyed eco-systems. They have displaced communities and destroyed local traditions of sustainable production. Despite this, industrial and local production also have enormous potential, giving humans the tools required to support the 8 billion people that share the planet.

Sustainable manufacturing aims to produce goods and services in ways that don't permanently harm the environment. It works within the limits of the planet's finite resources and eco-systems to meet the needs of the planet's population, whilst also being financially and socially viable. Alongside creating new materials and forms of production, it also examines how the waste products of existing forms of manufacturing could be used or re-cycled.

Recent developments across science, technology and design have created multiple opportunities for sustainable manufacturing. From the rise of bio-technologies to the emergence of the circular economy, designers are re-thinking how we create a range of goods and services. Organisations such as the Ellen McArthur Foundation, Stella McCartney, Faber Futures and Atelier Luma are just a few of those leading the way in this area.



This brief asks you to re-think how we manufacture a type of product, building, material, food, or anything else in a more sustainable way. You should identify a form of manufacturing that could be improved and seek an understanding of the specific environmental, economic and social factors that inform its development, application and aims.

You will need to consider the context for your suggested sustainable manufacturing proposal; for example, is it specific to construction, electronics, food production or another area? You will also want to consider the entire production and consumption cycle of your focus area to create an effective response. Alongside the extraction of finite resources, environmental damage can occur in the refinement of materials, shipping and transportation, and in the energy and waste expended through their assembly and distribution.

Solutions are invited from undergraduate students studying on any design, design engineering, engineering or other-related course. Participants may submit existing work or work in development and it does not need to be developed explicitly in response to this brief and for this competition, but respondents should be confident that they meet the submission requirements before submitting.

There is no one 'right' solution and the judges will be looking for innovative responses that demonstrate an innovative way of approaching the future of sustainable manufacturing.

Any response is acceptable as long as it meets the brief and submission requirements. For the purposes of illustration only, solutions could include:

- A new manufacturing system that creates less waste
- A bio-material product replacement and production system for a synthetic material such as polymer plastics
- A digital tool that enables manufacturers to research and identify sustainable materials to use in their products
- A service for collecting and re-using a waste material to manufacture a new product

Submission Requirements

All entries should be submitted through our entry portal, accessed via <https://designmuseum.org/the-design-museum-campus/higher-education/the-great-competition>

If you are unable to submit online, please contact us by email at thegreatcompetition@designmuseum.org

A submission should include the following 5 elements:

1. Project Overview: 1 x A3 PDF that includes your project title, key images and a short description (max 250 words) of your solution
2. Problem Identification: 1 x A3 PDF that identifies the market, social and/or environmental needs
3. Project Proposal: up to 3 x A3 PDFs that describe the proposed solution for sustainable manufacturing using a combination of images, renderings, technical drawings, diagrams and infographics in addition to short text.
4. Calculated environmental and social impact of adoption of your proposal: 1 x A3 PDF describing how uptake of your proposal would change production and consumption patterns and the positive impact it would have.
5. An updated CV: up to 2 x A4 PDFs (where there is a team entry, please include CVs for all entrants)

Eligibility

the Great Competition is open to any undergraduate studying design, design engineering, engineering or any related course or discipline anywhere in the UK. Entries will be accepted from both individuals and teams. Entries do not have to be developed expressly in response to the Great Competition brief, but must be the original work of the entrant/s.

Judging Criteria

Entries will be judged against 3 criteria and before entering, you should think about your how entry meets these criteria:

- 1 Identification of need/problem
- 2 Demonstration of innovative and cross-disciplinary thinking
- 3 Social and environmental benefit of the solution

Judging and Awards

After the final entry deadline, the judges will meet to review the entries against the judging criteria and draw up a short-list. Short-listed entrants will be invited to the Design Museum for a short interview to discuss their work, as well as participate in a masterclass with practising designers on 30th May 2019. Entrants

are advised to hold this date in the diaries in case of short-listing. Travel costs will be paid for short-listed students to travel to London for the day.

Following the interviews and masterclass, the judging panel will decide on the winner/s.

The award for the winner/s is £3000.

Key Dates

- Launch: Thursday 22nd November 2018 at the Design Museum, London
- Registration and submissions open: Friday 15th February 2019
- Final registration and submission deadline: 16th April 2019 at 17:00 GMT
- Stage 1 Judging: Early May 2019
- Interviews with short-listed entrants, Masterclass and Awards Celebration: 30th May 2019 at the Design Museum, London

About 'The Great Competition'

The aim of the Great Competition is to focus on practical innovation and nurture collaboration between disciplines, particularly design, engineering and business. Through this programme, the Design Museum and the Royal Commission for the Exhibition of 1851 seek to raise the profile of the range of creative opportunities for engineers and designers and to draw awareness to further academic and career pathways.

the Great Competition celebrates the legacy of the Great Exhibition of 1851, which was held in Hyde Park in London in the 19th century. The Great Exhibition brought together engineers, designers and inventors to present new products and ideas that changed the way people lived and worked. the Great Competition aims to revive this spirit in the 21st century context where the skilful combination of cutting-edge technology, engineering, design and innovation presents new opportunities to contribute toward a more sustainable future.

About the Design Museum

The Design Museum's vision is for everyone to understand the value of design and we aim to do this through our mission to create the most inspiring, exciting and engaging Design Museum in the world. The Design Museum is devoted to contemporary design in every form from architecture and fashion to graphics, product and industrial design. The museum operates as a registered charity. In 2018 the museum won the European Museum of the Year Award.

About the Royal Commission for the Exhibition of 1851

The Royal Commission for the Exhibition of 1851 awards some 35 post-graduate Fellowships and Scholarships a year, for advanced study and research in science, engineering, the built environment and design. It also makes a small number of Special Awards to support projects consistent with its overall aims. Many of these are focused on raising the awareness of the young to the opportunities presented by science and engineering. The total annual disbursement is nearly £4m a year, funded from the Commission's investment portfolio. Report of the Board of Management 2017.