



# IABSE Future of Design London 2023

## Competition: AI and structural design

### 1.0 Brief

Over the past years, Artificial Intelligence (AI) has undergone remarkable advancements, revolutionizing various industries and design disciplines. The objective of this competition is to encourage participants to reflect on the profound transformations that AI can bring to the design of structures.

Participants are asked to reflect on the transformative potential of AI in structural engineering by imagining how past projects would be designed in a different manner 30 years from now, after 2050, and how the outcomes of the project would differ.

The project chosen may be one in which the participant has been involved, a historical project (Forth bridge, Millau bridge, Millennium dome, Eiffel tower, etc.), or a hypothetical project that the participant may wish to analyse both at the present time and in the future.

Participants are encouraged to reflect not only on the impact of AI but also on how the economical, social, and environmental constraints around the projects may have evolved in 30 years, with special attention to the challenges related to the current climate emergency.

### 2.0 Judging criteria

The submissions will be judged by a jury of engineers and architects on the basis of the following criteria:

- **Depth of Analysis:** extent to which participants develop the potential impact of AI on structural engineering and highlight specific implications for the design process and outcomes of past projects.
- **Originality and Creativity:** uniqueness and inventiveness of participants' ideas and perspectives.
- **Clarity and Structure:** inclusion of coherent arguments, logical flow, and well-structured content that effectively communicate the ideas and concepts.
- **Impact and Sustainability:** assessment of the potential impact of the proposed AI integration on the sustainability and resilience of structures considering environmental, social, and economic aspects. Consideration of potential limitations and ethical considerations.

It should be noted that the judging criteria focus on the response to the brief, rather than the mode of presentation. While the quality of the presentation may affect the judges' decision.

Prizes will be awarded at the jury's discretion.

## 3.0 Submission details

### 3.1. Format

Submissions are to consist of a single A3 size paper or 2 A4 size papers, submitted in pdf format by email to [events@iabse.org.uk](mailto:events@iabse.org.uk). Submissions should not include any identifying marks (e.g. entrant names, company/organisation names or logos) displayed on the papers. Entries should be accompanied by the name of the participant separately in the email.

All types of content (text, graphs, images, etc.) are permitted on the submission, as long as they can fit within the space of a single A3 or 2 A4 papers and the total number of words is below 1000 words. Supporting material may be linked on the submission and may be included in the display on the day of the event but will not affect the judges' decision. The winner will also have the opportunity to give a short presentation during a Panel Discussion session within the event alongside the other invited panellists.

Entries must be submitted before 6 pm on 7<sup>th</sup> September 2023. Entries received later than this time will not be reviewed/judged.

The winner of the competition will be announced at the conference. Hence, shortlisted entrants are very encouraged to attend.

The organising committee will arrange for the shortlisted submissions to be displayed for public reading/viewing at the day of the event.

A prize of £100 will be awarded to the winning submission.

### 3.2. Programme:

14 <sup>th</sup> July 2023	Competition Brief issued
6 pm, 9 <sup>th</sup> August 2023	End of questions period. Any questions about the brief or the competition should be sent to <a href="mailto:events@iabse.org.uk">events@iabse.org.uk</a> . Answers will be made available to all competitors and published on the IABSE UK website.
6pm, 7 <sup>th</sup> September 2023	Deadline for competition submission
14 <sup>th</sup> September 2023	Shortlisted entries notified
21 <sup>st</sup> September 2023	Display and winner announcement at the IABSE FoD Conference