Kingston University London

EG5016B – Exploring Engineering Project Management

BEng/MEng Mechanical Engineering
BEng/MEng Mechanical Engineering (Automotive)
BEng/MEng Electrical and Electronics Engineering

INDUSTRY LIVE BRIEF

Thank you for supporting our undergraduate students with a Live Brief. This form will help us capture the key information for your proposed challenge and ensure a rewarding experience for the students involved.

1. **Organisation / Contact Details**
   - **Organisation name** :
   - **Your name** :Dafydd Morgan
   - **Job Title / Role** : Mechanical Design Engineer
   - **Email Address** : d.g.h.morgan@gmail.com
   - **LinkedIn Profile (optional)** : https://www.linkedin.com/in/dafydd-morgan/

2. **Title of the Challenge**
   A short, clear title (e.g. "Redesigning a Modular Bike for Urban Use")

   Floating Solar Design

3. **Summary of the Brief**
   A short description (250 – 300 words) of the real-world engineering problem you would like the students to work on.

   As the demand for renewable energy continues to grow, traditional land-based solar farms face limitations due to land availability and high costs. Floating solar farms installed on lakes, reservoirs, and other bodies of water offer a sustainable and space-efficient alternative. Design a modular floating solar energy system that is scalable, cost-effective, and adaptable to the diverse environmental conditions found in aquatic environments.

4. **Background or Motivation**
   What is the industry context or reason behind this challenge?

As economies begin to electrify their industries, the demand for electricity is expected to rise significantly in the coming years. Combined with the effects of climate change, the need for cost-effective renewable energy presents a growing challenge for future engineers. Solar power has become one of the fastest- growing sources of clean energy; however, large-scale solar farms often require vast areas of land, leading to competition with agriculture, housing, and natural habitats.

Floating solar offers a promising solution to these land use challenges by using underused reservoirs, lakes, and potentially even oceans. It also provides performance advantages: solar panels that are installed on water benefit from natural cooling, which can improve efficiency compared to land-based systems. Additionally, when integrated with existing hydroelectric

facilities, floating solar can form hybrid systems that offer more reliable, round-the-clock energy generation.

5. Constraints/Special Considerations

Any key requirements such as sustainability, manufacturing, cost, regulations, or customer needs?

Current floating solar solutions face challenges related to cost, scalability, maintenance, durability, and their impact on aquatic ecosystems. An effective floating solar system would need to address these issues and demonstrate the following key traits:

- Modularity
- Ease of maintenance
- Compatibility with standard solar mounting systems
- Durability in varying weather conditions typical of large bodies of water
- Cost-effectiveness
- Scalability
- Minimal impact on aquatic ecosystems

6. Presentation and Acknowledgement

Do you consent for the student work on this brief to be presented at our Future Skills Day (December 2025) or shared internally within the University (with appropriate credit to you/your organisation)?

✔Yes
☐Yes, but internal use only
☐No

7. Are you planning to attend the Future Skills Day on the 10th of December between 10am – 2pm at the Townhouse, Penrhyn Road Campus, Kingston University London?

☐Yes
✔Maybe
☐No