You are to produce a visual report documenting your product case study. The case study could consider a completely new proposed product or the redesign and realignment of an existing product. ***The product should broadly relate to your field of study*** i.e., Sustainable energy engineeringin agreement with the module leader.

You should consider the content taught in this module and include aspects pertaining to applicable taught content as appropriate to your proposal or redesign.

Your report should include as a minimum:

* Consideration of legal and regulatory considerations, referencing standards and IPR.
* Consideration and definition of the market and users
* Market research and targeting
* Design Development
* Manufacturing, Materials and Costing considerations

The report should additionally include consideration of at least one of the following aspects:

* Product Lifecycle considerations
* Marketing and product placement considerations
* Sustainability - Product durability and longevity/life cycle considerations/End of Life
* Product use, instructions, communication, maintenance
* User behaviour – modification or moderation

**Report Requirements**

* Word limit **3500 words +/-10%** *(excluding Abstract, References and Appendices)*
* Abstract 250 word *(please note that citations are not commonly used in an abstract)*
* Contents page, figure and tables list *(Hyperlinked)*
* Full references list to be provided in the Harvard style for details look [here](https://www4.ntu.ac.uk/library/developing_skills/referencing_plagiarism/referencing_styles/index.html):
* Figures, tables, and graphs should be all captioned, referenced and referred to in text.
* Time Management to include a Gantt Chart
* Appendices to include ***supporting materials only*** this could include background research, legislation, patents, calculations, programming code, materials analysis etc

## Assessment & Feedback

* Assessment set – w/c 10th October, Assessment deadline **6th December 2022** Dropbox by 2:30pm.
* Learning Outcomes assessed – K2, S1 & S2 refer to module specification for detail.
* Written feedback given by 21 working days after submission w/c **10th January** **2023.**

**Report Structure**

**Abstract** (Executive Summary): Summary of the report highlighting approach taken and key performance indicators (KPI’s).

**Introduction**

To describe the need for the product/redesign from a user and market perspective this is to include a summary of your literature review, with further detail being given in the appendix if and as required. If the product is a new proposed product the market for this should be explored here and the need justified, if redesigned the current product limitations should be clearly addressed.

**Market and Legislative Considerations**

A consideration of the market, size, impact of the product current if existing and proposed market share, strategies to be employed/explored. Legislative considerations pertinent to the product highlighted with how they will be addressed.

**User Considerations**

Specific user requirements to be researched and documented including anthropometrics and ergonomics, user comprehension, intended benefits, use. With other pertinent factors to be considered as applicable for example purchase type, ownership model, need, use considerations, access, upgrades, replacement, end of life etc.

**Design Development**

Design phase to demonstrate consideration of a number of possible solutions leading to a developed concept to enable the initial consideration of manufacture, materials and costs. This section should include sketch work and CAD models of the finalised proposal.

**Conclusions and Further Work**

Documenting the USP’s of your proposal and how you have addressed the findings and sought to consider market requirements and grow market potential, with a consideration of further work that could be undertaken if the project continued.

**General Guidance**

The report should be ***concise*** and ***consider all applicable sections*** to demonstrate an understanding of the module content and its application to a proposed or redesigned real-world product.

The ***report should use images, diagrams, graphs, figures, and tables wherever applicable*** to communicate in a visual, efficient, and effective professional format.

Your report should be ***proofread*** to ensure readability and clarity demonstrating the correct use of English spelling and grammar throughout, this is an aspect of professionalism and academic rigor.

Please make ensure that you make use of the ***Task Specific Grading Criteria (TSGC)*** on the assessment sheet and the seminars to guide the report content, structure, and rigor.